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Economic Efficiency Versus Social Equality: A North Pacific Tradeoff

REGIONWATCH
Sources of Personal Income and How They've Changed
Washington's Professional Sector
Personal Income Indicators

The Differences that Separate American and Soviet Managers

Should Public Pension Funds Be Used for In-State Development?

Commentary

A Closer Look at Equality and Efficiency

When the late economist Arthur Okun wrote *Equality and Efficiency: The Big Tradeoff*, he conceded that the two goals are not inevitably at odds. In fact, he proposed a number of economic reforms that he believed would serve to increase both social equality and economic efficiency. His famous book, nonetheless, grapples with the problem of reconciling the two values when they are—as is often the case—at odds.

In this issue, Karen Franklin's article, "Equality Versus Efficiency: Assessing the Social Impacts of Alaskan Fisheries," illustrates the applicability of Okun's theoretical musings to real-world public policy issues. At first glance, the case represents a struggle for economic advantage, a conflict of interests between a fleet of modern factory trawlers and the local fishers and processors they are displacing. But it also represents a clash of values, one more episode in the ongoing rivalry between the elusive ideals of efficiency and equality. Unfortunately, when such emotion-charged symbols are introduced into public policy debates, complex issues tend to be oversimplified. To combat this tendency, I advise readers to assess the following merits of the Alaskan fisheries case.

First, if asked to choose which of the two values should receive greater priority, Okun, like the rest of us, would have doubtlessly answered, "It depends." He recognized that the ideals of equality and efficiency are not primarily ends in themselves. Rather, they are means to a greater end: the advancement of the citizenry's general welfare. If slight improvements in efficiency could be achieved by a severe reduction in equality, such an alternative would not be desirable, since it would produce a net loss in welfare for society as a whole. Sacrificing a great deal of efficiency for minimal gains in equality would similarly be ill-advised. But if we raise our sights above the two intermediate values and focus on our ultimate goal, we can use this type of marginal analysis to maximize society's welfare.

Second, it is always worthwhile to examine the fit between symbols and reality. For example, the factory trawler presumably represents a technological giant step in the direction of greater economic efficiency. But just how "efficient" is a high-volume offshore processing system that often uses only the roe of the pollock it harvests, while discarding the remainder of the fish? Or one that increases crime, domestic violence, drug and alcohol problems, and demands for expensive social services in Alaska's fishing towns? Or one that overharvests to the point that the Bering Sea's groundfish population declines? Unless such costs are included in the operating expenses of the trawler fleet, how can we really judge whether the new methods are any more efficient than the old?

Likewise, it is not entirely clear that preserving traditional arrangements would truly be more egalitarian. If fish can be caught and processed at lower cost by factory trawlers, the savings will presumably be passed on to consumers in the form of lower prices. This effectively raises the standard of living of millions of consumers, while diminishing the quality of life for a few thousand Alaskans. Often throughout history, the abandonment of traditional economic arrangements has served to reduce hierarchy and promote greater social equality.

Finally, there is a real danger that the issue could become overly romanticized. If the conflict comes to be seen as a struggle between symbolic social goals, the self-interests of those involved will be conveniently ignored. By promoting such lofty ideals as equality and efficiency, the North Pacific Fisheries Management Council may sacrifice other important values. If, for example, the council tries to accommodate both fishing fleets by raising the allowable catch, this action will further disrupt the Bering Sea's fragile ecosystem. While politically expedient, such a tradeoff would not be particularly efficient or equable.

Rights, property rights included, are political artifacts. Society removes from the marketplace those rights it values most highly. "Society refuses to turn itself into a giant vending machine that delivers anything and everything in return for the proper number of coins," Okun observed. The rights to equal justice or freedom of speech, for example, can not be bought or sold, even if all parties to such a transaction could benefit. The right to pursue a traditional way of life is certainly less fundamental, but that pursuit has been protected in a variety of circumstances. The management council's responsibility is to determine whether traditional North Pacific fishing communities are worth preserving at the expense of greater economic efficiency.

In its deliberations, the council should consider the likelihood that declining fish populations will soon require that existing quotas be reduced. While lower quotas could sustain at least some of the remaining shore-based fishing communities, they would hinder the ability of factory trawlers to achieve the scale economies that make them so efficient. If quotas are *not* lowered, this could lead to the worst of all possible worlds—decimation of the fish population and the effective elimination of *both* fleets. In the long run, both equality and efficiency would suffer.

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VOLUME 7, NUMBER 1 JANUARY 1991

Equality Versus Efficiency: Assessing the Social Impacts of Alaskan Fisheries 2
BY KAREN FRANKLIN

REGIONWATCH

► **Economic Developments in the Pacific Northwest** 7

► **Shifts in Personal Income Composition: The Graying of the Northwest** 9
BY GARY W. SMITH AND ROBERT A. CHASE

► **PERSONAL INCOME INDICATORS** 12

► **The Professional Sector in Washington State** 15

Doing Business with the Soviets: Understanding the Differences 19
BY ELISA MILLER

Public Pension Funds: A Potential Source for Economic Development? 22
BY JONATHAN KING

Cover illustration by Margaret Chodos-Irvine

ASSESSING THE SOCIAL IMPACTS OF ALASKAN FISHERIES

EQUALITY *versus* EFFICIENCY

Democracy and free enterprise are the vertebrae and skeleton of American society. Yet the relationship between social equality and capitalism is an imperfect one. Equal rights, as all of us know, guarantee neither equal opportunity nor equal monetary returns. "Such is the double standard of a capitalist democracy, professing and pursuing an egalitarian political and social system and simultaneously generating gaping disparities in economic well-being," wrote the late economist Arthur M. Okun in his ground-breaking work, *Equality and Efficiency: The Big Tradeoff.* Okun, who earned distinction at Yale University, the Brookings Institution, and as a member of the White House Council of Economic Advisors, caused a stir when the book was published 15 years ago, and he has been influencing American public policy ever since.

by Karen Franklin

The North Pacific commercial fishing industry is an example of Okun's words. The recent boom in the Alaskan pollock fishery has led to overwhelming success for Seattle-based factory trawlers, but has left the other resource users—shoreside processors, crabbers, and halibut long-liners—at a competitive disadvantage. The Alaska fishing community, consequently, has become embroiled in a turf war, and disputes between the haves and the have-nots are evidence of the tension between egalitarian and free enterprise principles.

The boom, for example, has threatened the economic prospects and social stability of several Alaska towns, according to some local officials. To resolve these problems, various user groups have asked government regulators to draft new rules aimed at safeguarding their "way of life." In a tacit manner, they have requested a restriction of market freedom. Okun accepted this ebb and flow between market forces and social concerns as necessary: "I believe that, in many cases, the institutional arrangements represent uneasy compromises rather than fundamental inconsistencies," he wrote.

Heated resource allocation controversies have come to characterize the North Pacific fisheries. The genesis for this situation is a 14-year-old political decision that was meant to stimulate domestic commercial activity in the North Pacific and other U.S. waters. The Magnuson Fisheries Conservation and Management Act of 1976 encouraged Americans to exploit the fisheries resource within the newly created exclusive economic zone (EEZ), a 200-mile offshore strip reserved for domestic vessels' first use. The legislation worked to the extent that within 10 years Americans had successfully ousted foreign-flagged boats from the zone. But no one anticipated the bitter divisions among fishermen and processors that would result.

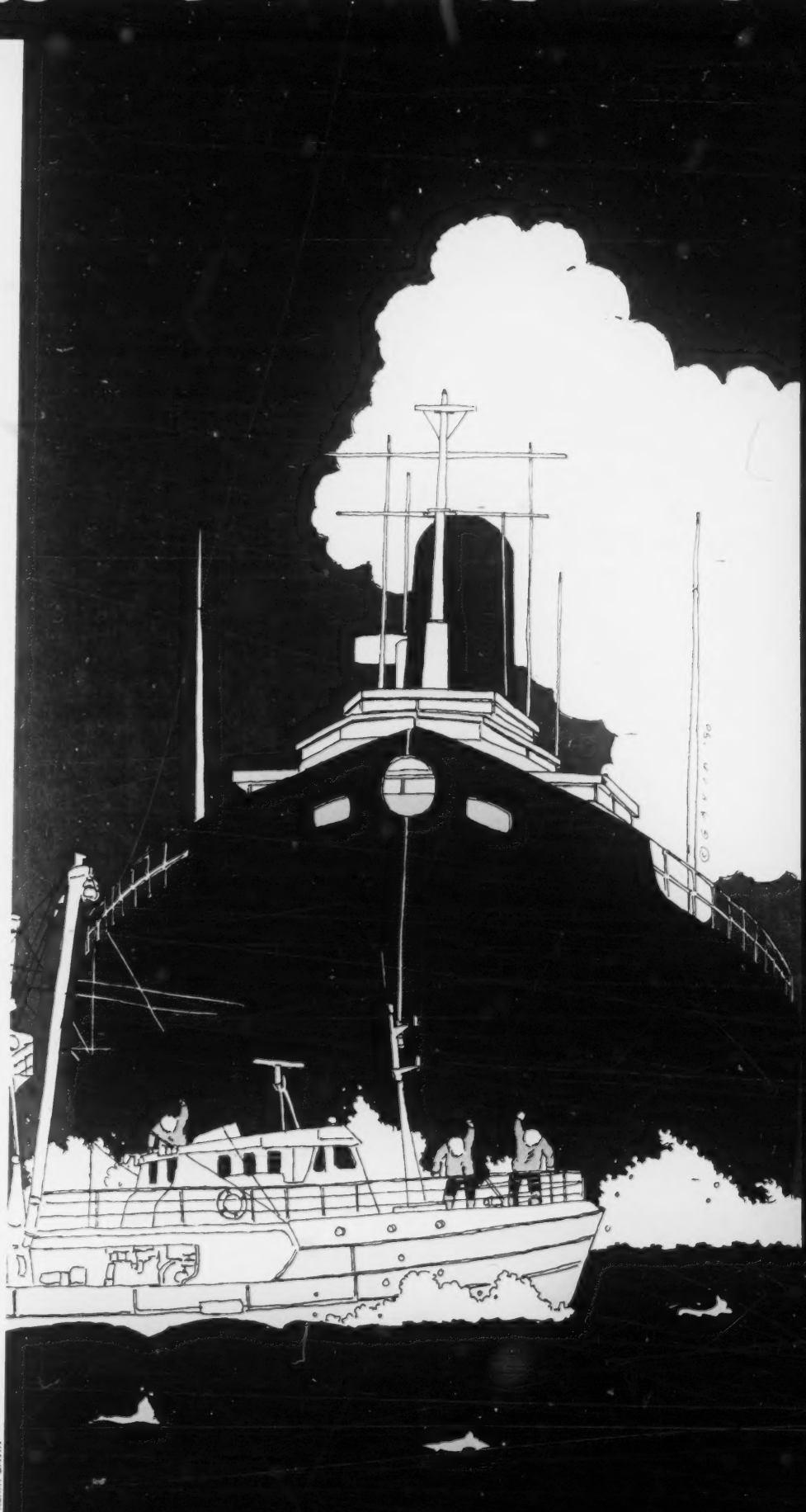
By the late 1980s, explosive growth in the groundfish sector had resulted in the rapid influx of highly mobile, highly efficient factory trawlers in the Bering Sea. Most of

these processing ships, which can remain at sea for several months at a time, hire crews in their home ports of Seattle and other Pacific Northwest cities. Between 1987 and 1990, the domestic groundfish industry—based primarily on pollock, but also including Pacific cod, yellowfin sole, sablefish, ocean perch, and others—was overcapitalized. The fleet of 50 factory trawlers, worth more than $1 billion, was capable of harvesting and preparing for market virtually all the groundfish allowed under federal management quotas.

To date, management policy in the North Pacific has largely let the free market run its course, and, as a result, the fishing community has become economically stratified. The factory trawlers appeared in the Bering Sea at the same time that king crab stocks declined, leaving many shore-based processors and fishermen little alternative but to try their hand in the pollock market. But the Alaskans have stood little chance against the well-heeled, highly proficient offshore catcher-processor fleet. The fleet currently harvests 75 percent of the groundfish in the Bering Sea, according to Bruce Buls, the public relations director for the American Factory Trawler Association (formerly named the Alaska Factory Trawlers Association). The fleet works to maximize its efficiency in ways that have been criticized by both the commercial fishing industry and the policy-making community. Some factory vessels, for example, process only the roe from the pollock they catch and then dump huge quantities of carcasses overboard.

Another objection is the fleet's incidental harvest—called bycatch—of a variety of commercially important species, such as crab, herring, and halibut. Fishermen in these markets have complained bitterly about this threat to their livelihood. "Without strict bycatch regulations, the trawlers have no conservation incentive to limit the destruction of bycatch species—only an economic incentive to maximize their harvest," said Arni Thomson, the executive director of the Alaska Crab Coalition. "The issue here is waste, massive costs imposed [by one sector] on another sector of the industry."

Controversies over the factory trawler sector's efficient methods—and its ability to dominate the pollock market—heated up politically in 1989, when Congress began reconsidering the merits of the Magnuson Act in a series of public reauthoriza-



KERRY GAVIN

tion hearings. Since then, congressional and federal policy-makers, for the first time, have been forced to grapple with the social costs of an increasingly mechanized offshore groundfish industry. The North Pacific Fisheries Management Council, a quasi-federal agency charged with regulating Alaskan fisheries, faces the daunting task of managing resources for both economic efficiency and social equity.

"Socioeconomic information is becoming more and more critical to decision-making," said Steve Davis, the deputy director of the council. "Now that foreigners aren't really in the picture anymore, it's becoming a politically sensitive issue. It's important that the council consider the economic ramifications of all its decisions."

When Cultures Clash

The feverish pace of investment in high-priced boats and floating factories has dramatically altered the economic and social composition of Alaska's fishing towns in just a few short years. Social scientists have noted the population growth, increased crime and domestic violence, greater drug and alcohol problems, better education and job opportunities, shifts in family and kinship relationships, greater income disparities, urbanization, and changing cultural values.

During the 1980s, when pollock overtook king crab as the most important commercial species in the region, Unalaska, the largest city in the Aleutian Islands, successfully adapted. "The port of Unalaska has consistently been a top-ranking U.S. port in the amount and value of commercial fish landed," stated a 1990 Minerals Management Service (MMS) study of the Bering Sea's fishing industry. In addition to its active shoreside processing facilities, Unalaska and neighboring Dutch Harbor serve as the premier ports for marine services, offering fuel, food and water, cold storage, boat repair, warehousing, transportation, and other support businesses crucial to offshore fishing and processing operations.

But the changes born out of prosperity haven't all been positive for this once-remote Aleut village. The surge of activity in the groundfish industry boosted Unalaska's population from slightly more than 300 in 1987 to 2,500 in 1990, and the transient population now stands at between 4,000 and 5,000, said city manager Herv Hensley. The population explosion has brought an increase in social problems, such as housing shortages, alcohol and drug abuse, and domestic violence.

"It has been a terrible disruption for people who have lived here for many years," Hensley explained. "This was a very small, tight-knit community. For [long-time residents], the changes have been very unsettling. It's been very difficult for these residents to swallow the fact that the character of their town is not now, nor ever will be, the same. On the other hand, they now have the ability to have year-round jobs and to live a lifestyle they wouldn't have been able to live before. To some people, of course, that's not a good tradeoff."

Despite Unalaska's growing pains, the town has weathered the pollock boom comparatively well. But the factory trawler fleet, by doing its processing onboard, has little reason to visit most of the region's smaller ports. There is a general perception in these villages that the fleet has taken away potential marine business.

Even more to the point, it has removed potential tax revenues. Alaskan fishing communities depend on a "raw fish" tax, paid on seafood products harvested within three miles of shore or processed onshore, to fund city infrastructure and social services. In King Cove, an Aleutian town of 870, fish tax revenues constituted 25 percent of the city's budget in 1987, according to the MMS study. City officials see the stepped-up activity in offshore processing as a threat to this source of revenue. "The trawlers are taking tax money from King Cove by not selling fish to Peter Pan [Seafoods]," said Harvey Mack, a local fisherman and King Cove's mayor. "There are just too many factory trawlers now. In two or three years, this dragging business is going to be over with. The losers are going to be the banks and the local shore towns."

"They pay no [raw fish] taxes at all if they're in the EEZ," added Vern McCorkle, city manager of the Pribilof Island town of St. Paul. "We get into a crunch when they come onshore for medical evacuations or to change crews. They come trooping through town needing housing, police protection, those kinds of services. It's hard to provide that support all year when they only need it once every couple months."

The increased demand for medical services has become the subject of particular concern throughout the region; the Bering Sea is one of the most hazardous fishing areas in the world. Officials in St. Paul and Unalaska estimate that at-sea medical evacuations take place at a rate of two to three per week. "To pick up a person who has an injury at sea is very costly," McCorkle said. "Evacuations cost thousands of dollars each, and we can't afford it. We send bills out—some pay and others don't. We still have to keep the boat up and train the crew. But we want to keep that service available so that we can attract the fleet to St. Paul."

In 1989 Unalaska's clinic responded to 125 trauma cases—which required at-sea evacuations and flights to urban hospitals—1,000 emergencies, and more than 8,000 visits. "Right now our clinic is overwhelmed," city manager Hensley said. "I approached the legislature last session for matching funds to help us build a new clinic so that we could keep up with our patient load. Unfortunately those funds didn't come through."

Battling for Justice in the Marketplace

Coastal Alaskans seem increasingly resentful of the free market at work. As former Alaska governor Steve Cowper noted, "The offshore processors are by and large unregulated. To my knowledge, they don't pay any taxes, except the federal income taxes that everybody pays, and the drift of things is that the mechanization of the fisheries and the highly sophisticated technology of fishing lends itself to larger and larger individual harvesters to the detriment of fishermen and processors in the small communities."

For many in the seaside towns in southwestern Alaska, there is a widespread fear of disenfranchisement, based on the rate of capitalization—and of resource utilization—within the out-of-state factory trawler sector. Those who stand on the economic fringes—and their champions in public office—have demanded that the North Pacific Council take action to alleviate the social and economic hardships, both real and anticipated.

The council has responded by considering a management scheme to divide the groundfish quota between shoreside and offshore processors. Proponents of this proposal—which include residents and elected officials of Alaska shore towns, and members of the state legislature and the Alaska congressional delegation—contend

that divvying up the quota would grant more equitable opportunities. "If the jobs weren't provided, it would be devastating to all seacoast towns in western Alaska," McCorkle said. "If the onshore processors didn't get their quotas, there would be a great many skilled Alaskans out of jobs."

Opponents claim that open access already exists, that shoreside processors and their catcher boats don't need a special provision to get involved. "They've never been interested in the groundfish industry traditionally," Bruce Buls said. "Their livelihoods have centered around herring, halibut, salmon, and crab. Those are the high-value species. It wasn't until Americanization came along and everyone had the opportunity [to use the resource] that they found that at-sea processing makes the most sense. Saying that the shoreside processors are being preempted—I just don't see that as true."

> ***Policymakers, for the first time, have to grapple with the social costs of an increasingly mechanized offshore groundfish industry.***

By all accounts, the onshore-offshore management debate is the most explosive issue, politically and economically, that the North Pacific Council has considered. The regulators have commissioned a team of anthropologists to study the likely results of a number of allocation scenarios, which is the council's first attempt to systematically assess the social consequences of the commercial fishing activity under its charge.

At the heart of the onshore-offshore debate is the question posed by Okun more than 15 years ago: How and where does society draw the boundary line between the domain of rights and that of the marketplace? According to Okun, capitalism doesn't provide for all of society's needs. He argued that the nonmonetary values of life are what hold society together.

In fact, commercial fishing is vastly more than an economic activity, and there is far more at stake. Fishing, particularly among such traditional segments of the industry as salmon, crab, and halibut, encompasses an entire lifestyle. Although fishermen are motivated by monetary incentives, they also seek less tangible rewards, such as job satisfaction and independence.

"Fishing is not merely a means to an end, it is intrinsically rewarding," wrote anthropologists John Gatewood and Bonnie McCay in a 1990 study published in *Human Organization*. "Fishing is not only a livelihood, it is a way of life."

Throughout the summer of 1989, the House Subcommittee on Fisheries, Wildlife Conservation, and the Environment offered a rare opportunity for fishermen and their defenders to raise their fears and concerns with key members of Congress. In a series of hearings on Magnuson Act reauthorization, a procession of witnesses made emotional appeals for greater social equity. Alaska state senator Johne Binkley eloquently described the small-scale herring operations among his Yupik Eskimo constituents: "They [use] small wooden boats primarily, powered by outboards, and they are really struggling to try to participate somehow in a billion-dollar industry that is virtually on their doorstep. They can literally look out during the daylight hours and see the masts of many ships on the horizon and, at night, the lights of those ships that are harvesting that resource, that are virtually vacuum cleaners out there sucking up the resource."

The Social Advantages of Capitalism

Calls for social equity are clearly based on a belief that society's egalitarian principles should serve as a check on unbridled capitalism, that every citizen is owed recognition of his or her inherent worth. But if society recognizes that everyone has intrinsic value, the forces of free enterprise clearly do not. No matter how equitably the right to participate in the market is meted out, there is no right to survival nor to an equal standard of living. "Everyone can get in the act, including some who aren't talented actors," Okun wrote. "Rights in the marketplace do not guarantee anyone an income, but then freedom of speech does not guarantee anyone an audience."

The factory trawler sector puts forth a similar argument in its defense. The American Factory Trawler Association readily admits that the offshore fleet has cornered the groundfish market, but that hardly means the system is malfunctioning, said Bruce Buls. "There's still open access. If you wanted to build a factory trawler, you could. That doesn't mean that you could necessarily get the money or the backing, but other than that there's nothing to stop you from doing it."

It is difficult to refute this point of view, even for the commercial fishermen who argue from a sociocultural perspective. In the tradition of commercial fishing, fishermen are obliged to seek the most efficient way to exploit the resource and the market. "Every fisherman has a scam, an angle," said one anthropologist. Attaining "highliner" status through one's own skill or ingenuity is an intrinsic cultural value, as are independence, risk, and monetary rewards for effort. These cultural values are inherently capitalist.

The shore-based fishing industry acknowledges, as did Okun, that there are a number of social advantages to capitalism. For example, a free market economy defends liberty by immunizing its citizens from encroachment by the state. "As an entry on some of the 'enemies lists' compiled by Nixon aides," Okun wrote, "I shudder in imagining my income and status during that era if the federal government had been the only employer."

"Fishing Is Like Farming"

Despite society's attempts to impart justice and to even out the playing field, social equality exists only in theory. In the real world, the rights safeguarded by capitalism are virtually bought and sold on the open market. As Okun noted, there are ample opportunities to circumvent the system through political influence and campaign contributions, access to expensive lawyers, and sophisticated lobbying. Some players also have a natural advantage in the form of education, wealth, political savvy, and powerful connections. Others are handicapped from the outset. "Prizes for performance would be more defensible if everyone had an even start," Okun wrote.

In the communities of the Bering Sea and the Gulf of Alaska, residents are charging that the out-of-state factory trawler fleet has an unfair advantage. "These systems create franchises that only the wealthy can purchase," said Ron Philemonoff, an Aleut who represented the Central Bering Sea Fishermen's Association during the 1989 hearings. "If we cannot secure an interest in the resources that surround our islands,

our communities face social and financial ruin."

The residents of St. Paul, a village in the remote Pribilof Islands, are especially bitter about what they perceive as society's commitment to free enterprise at the expense of their welfare. A community of 580 Aleuts, St. Paul has a long history of dependency, dating back to the period when they were forcibly moved to the islands to work for Russian fur seal traders. When the Americans purchased Alaska, the U.S. government took over where the Russians left off. The federal government began making welfare payments to the Aleuts when the seal harvest declined, effectively making them "wards of the government," according to a 1986 Mineral Management Service study of the Pribilofs.

In 1983, after more than 100 years of National Marine Fisheries Service administration, the commercial harvest came to a halt under amendments to the Fur Seal Act. "The long-term relationship between the federal government and the people of St. Paul came to an abrupt end," the MMS study said. Although residents had sought autonomy, the sudden departure of the federal government caused an immediate economic crisis. For the past seven years, St. Paul has tried to establish its own market economy and has relied on the fishing industry as its best hope for a sustainable economic base. After an initial attempt to enter the halibut fishery, St. Paul fishermen found themselves unable to compete with the larger boats in the fleet. There are several new canneries in town, but St. Paul has had difficulty attracting business.

No matter how equitably the right to participate in the market is meted out, there is no right to survival nor to an equal standard of living.

"It is problematic whether onshore facilities could compete with offshore floating processors because of the lower wages paid by the latter and the tax advantages of processing outside the city limits," noted a 1988 Mineral Management Service study of rural Alaska economics. "The immense financial leverage of large off-island operations places local fishermen in a deficit position since [they] are unable to weather short-term losses. They are undercapitalized, cannot obtain ample credit, and lack sufficient cash flow to underwrite their operations on a steady basis." Not surprisingly, St. Paul officials and residents hope that the management council will establish a quota for shoreside processors, and the Central Bering Sea Fishermen's Association has requested a special Pribilof Islands quota.

Meanwhile, the town is trying to position itself as a hub for marine services. Located in the middle of the Bering Sea, St. Paul has an advantage of closer proximity to the fishing grounds than Dutch Harbor's facilities. But according to AFTA's Bruce Buls, the Pribilofs can't begin to compete. St. Paul's recently christened harbor, he said, "isn't nearly big enough for most of the bigger boats."

It is easy to understand how discouraged the residents of this community might feel. After making investments in fishing boats, processing plants, and harbor facilities, they continue to come up empty. "Fishing is like farming. You can want your darndest to get into it, but it takes a tremendous amount of money," city manager Vern McCorkle said. "You can't just buy a boat and go out and fish anymore. If your father and grandfather didn't fish, you can't get into it. Alaskans look at the development of the fishing industry in Seattle and don't feel a part of it. We want to be included."

Such charges of unfair advantage are not limited to outlying native villages. Although Kodiak is one of the largest fishing ports in the United States, local residents have expressed outrage over lost opportunities at the hands of the offshore factory trawler fleet. In 1989 factory vessels operating in the Gulf of Alaska closed down Kodiak's groundfish processing plants in a matter of weeks.

"After the Gulf of Alaska pollock quota was gone, the factory vessels returned to the Bering Sea to continue processing from the larger Bering Sea pollock stocks. The shore-based plants in Kodiak, however, obviously lack the ability to move their operations to the Bering Sea. Plants that had anticipated a sufficient pollock quota for most of 1989 were closed six weeks into the season," said Joe Plesha, general counsel for Trident Seafood, which owns a number of onshore and offshore processors. "The factory fleet has the ability to fish out the resource from the area around a shoreplant, thereby destroying the viability of the shore-based processor, as well as the communities that depend on them, without any immediate adverse impact on the factory trawler's operation."

Striking the Balance Between Equality and Efficiency

"I have dozens of good questions about the fairness of market-determined incomes," Okun wrote. "But I don't claim to have any good answers. The appraisal is obviously a matter of personal judgment."

For the North Pacific fishing industry, the answer lies in a reasonable compromise, but the resolution of these allocation battles will require a difficult political decision. The North Pacific Fisheries Management Council is fielding the viewpoints of dozens of interested parties, compiling data, and drafting management alternatives. In the end, it will be up to the council to decide how to balance economic efficiency with social equity.

Virtually all sectors of the industry favor some mediation in the form of regulation. The menu of regulatory questions awaiting resolution at this writing includes bycatch management, "community development" and "native preference" quotas, limited entry for several commercial species, and even a moratorium on new boats.

In its deliberations, the council has been instructed by law to use the interests of the nation as its guiding principle. But as Okun noted, the interests of the nation are in a perpetual state of conflict. There is little consensus on these issues and there is little reason to believe that a political compromise will resolve the underlying issue. "A democratic capitalist society will keep searching for better ways of drawing the boundary lines between the domain of rights and the domain of dollars," Okun wrote. "To be sure, society will never solve the problem, for the conflict between equality and efficiency is inescapable. In that sense, capitalism and democracy are really an improbable mixture."

Karen Franklin is a free-lance writer who specializes in natural resource and public policy issues.

REGION WATCH

Economic Developments in the Pacific Northwest

The national scene

Events in the Middle East and the subsequent run-up in oil prices will play a major role in shaping economic developments in 1991. Higher oil prices have come at a time when a number of indicators were already pointing to slower economic growth. Since the second quarter of 1989, annualized rates of growth have been below 2 percent for each quarter. During the first half of 1990, real gross national product rose at a slow 1 percent annual rate, down from a 1.3 percent increase in the second half of 1989. Second quarter growth was sluggish because of weak business investment and consumer spending, and a downturn in net exports.

For the third quarter, preliminary estimates of real GNP (1.8 percent) indicate considerable growth, but the rise should not be construed as a sign that the economy has regained its momentum. Consumption has improved, but on a year-to-year basis, it continues to weaken. The outlook for the fourth quarter has been dimmed by a record drop in consumer confidence and expectations. The Conference Board's Consumer Confidence Index (CCI) in October was 61.3 (1985 = 100), down 23.4 points from its September total, and we haven't seen a level that low since the 1981-82 recession. Real personal consumption expenditures (PCE), which are tracked by the U.S. Bureau of Economic Analysis, make up nearly two-thirds of real GNP. After each of the last eight sharp drops in the CCI since January 1977, real PCE growth has slowed.

Other monthly economic barometers, the National Association of Purchasing Management's (NAPM) survey and the U.S. Department of Commerce's construction spending estimate, indicate an overall drop in business confidence. Both the NAPM monthly index and construction spending have fallen to their lowest levels in eight years.

The nation's employment situation has also shown signs of weakness. The unemployment rate, which stands at 5.8 percent, was half of a percentage point above the level that generally prevailed throughout 1989 and into the first half of 1990. Worker layoffs ballooned to 1.1 million during the month of September, and employers are "recession discounting" by reducing their workers' hours and leaving vacancies unfilled or filled on a temporary basis. Companies such as Manpower and Kelly Services are finding it easy to place their temporary workers. Their placement figures shot to 1.2 million in 1990, up from 400,000 in 1982.

The budget agreement is a credible step toward needed fiscal discipline—or is it? The agreement only trims $35 billion from the deficit in fiscal year 1991, and $500 billion in the five years to 1995. To meet these deficit targets, the nation's economic picture has to be especially rosy from 1992 to 1995, with real GNP growth projected at an average of 3.8 percent a year. Safer estimates of the nation's medium-term growth rate are around 2.5 percent. Given that each percentage-point reduction in GNP growth adds an estimated $25 billion onto the budget deficit, the accumulated total for the last four years of the package is likely to be at least $100 billion above the total projected by the agreement.

With the budget agreement finalized, attention is now focused on the Federal Reserve Bank's ability to ease monetary policy and cut short-term interest rates. But its efforts may not be enough to shore up a sagging national economy. And it may be that the Fed's influence in stimulating demand by lowering interest rates has been weakened in recent years with the deregulation of financial markets, the creation of new financial instruments, and the internationalization of capital markets.

Recession is now the prediction for most economists, including the Pacific Northwest Executive's forecast panel. Most of our panel members agreed that the longest peacetime expansion in U.S. history ended during the fourth quarter of 1990, prompted by the crisis in the Persian Gulf and the

Table 1: Panel Forecasts
median annual percent changes

	Real Gross National Product	Implicit Price Deflator
1989 actual	2.5	4.1
1990	1.0	4.3
1991	0.7	4.5
1992	2.5	4.1

	Nominal Personal Income	Non-agricultural Employment	Manufacturing Employment
1989 actual	10.4	5.3	5.7
1990	8.9	4.3	0.7
1991	6.5	1.3	-1.9
1992	7.4	2.4	1.0
1989 actual	9.5	4.4	1.4
1990	7.7	3.2	0.7
1991	6.0	1.3	-0.7
1992	7.5	2.5	0.3
1989 actual	9.6	5.4	4.3
1990	8.8	5.5	3.9
1991	6.5	3.0	0.5
1992	8.0	3.3	2.0

related oil price shock, the current expansion's old age, and the financial crisis brought on by the federal deficit. The depth, dispersion, and duration of the recession, however, are unknown.

Regional forecasts

While other regions across the country appear to be sliding into recession, the Pacific Northwest is showing signs of a slowdown (Table 1). Nonfarm wage and salary employment growth rates have fallen off, and the drivers of past employment growth—Boeing, forest products, and high technology—have played less dominant roles during 1990. Boeing, despite another record year in sales, a substantial backlog of firm orders, and the initial interest in its new 777 series, has moderated its employment growth. The region's forest products industry has been battered by mill closures, which were brought on by timber supply shortages, high log prices, and lessened product demand. Although the region's technology-based manufacturing industries continue to expand, with hundreds of new companies setting up shop, the rate of growth has not matched that of previous years. Idaho's small high-technology sector appears to be the exception; both Hewlett-Packard and Micron Technology are displaying continued rapid growth.

Nonmanufacturing growth has picked up much of the region's slack. All three states, particularly the fast-growing metropolitan areas of Seattle, Portland, and Boise, are noting high rates of building activity, and construction employment levels have reached a record high. In 1991, as the regional economy slows and the backlog of demand is filled, construction employment should decline modestly. Services and trade sectors will continue to be the major sources for new jobs in the region.

The Pacific Northwest, although far from being recession-proof, will probably weather this downturn better than the one in 1981-82. Some forecast panel members (Table 2)—particularly those in Idaho—contend that the Pacific Northwest may not even suffer a recession. The region's economy does appear to have diversified, with expansion in high technology, increasing tourism, robust construction, growing foreign trade, strong agriculture, and an influx of wealthy retirees.

Table 2: *Pacific Northwest Executive* Economic Forecast Panel

WASHINGTON

Clarence H. Barnes, dean, School of Business Administration, Gonzaga University
Richard Conway, economist, Dick Conway Associates, Seattle
Susan Doolittle, economist, Port of Seattle
Bruce Lippke, director, Center for International Trade in Forest Products, University of Washington
Lynn Michaelis, chief economist, Weyerhaeuser Company
Douglas H. Pederson, vice president, Security Pacific Bank
Chang Mook Sohn, chief economist, Economic and Revenue Forecast Council

OREGON

William B. Conerly, vice president and economist, First Interstate Bank of Oregon
John W. Mitchell, senior vice president and economist, U.S. Bancorp
Ham Nguyen, Corporate Planning, Portland General Electric
Paul Warner, state economist, Executive Department, State of Oregon
W. Ed Whitelaw, professor, University of Oregon; president, ECO Northwest

IDAHO

John Church, senior economist, Idaho Power Company, Boise
Michael H. Ferguson, chief economist, Division of Financial Management, State of Idaho
Donald W. Holley, economist, Ore-Ida Foods Inc., Boise
Jack G. Peterson, economist and consultant, Eagle
Don Reading, economist, Ben Johnson Associates, Boise

In the Northwest, 1990 was "the year of the spotted owl." Early last summer, the U.S.

A new environmental battle?

Fish and Wildlife Service ruled that the northern spotted owl was indeed a threatened species, worthy of rigorous (and controversial) protective measures to prevent its demise. The ruling has shaken a number of timber-dependent communities in Oregon and Washington. To protect the owl, whole tracts of old-growth forest—the habitat favored by the unassuming bird—will be off-limits to loggers.

This year, the spotted owl may lose its limelight, overshadowed by concerns about five species of Northwest salmon: Snake River spring, summer, and fall chinook, Snake River sockeye, and Lower Columbia River coho. Last spring, the Shoshone-Bannock tribes of Oregon, Oregon Trout, the American Fisheries Society, and several environmental groups petitioned the National Marine Fisheries Service—the federal agency responsible for marine-migrating fish—to list these species as either endangered or threatened. The petition identifies runs that have been seriously depleted, but rigorous protection may redefine the way the Columbia-Snake River system is managed. Hydroelectric power generation, irrigation, commercial and recreational fishing, tribal fishing, navigation and dredging, timber production, and agriculture could be severely affected. The potential economic costs would not only be enormous; they would influence the quality of life for everyone in the Northwest.

This prospect illustrates the need to identify the policies that can promise economic growth while protecting the environment. One possibility is to use economic incentives to maintain our environment. Instead of mandating actions, this approach meets environmental objectives by changing the participants' economic incentives. Examples include fees or charges, transferable permits, or even liability laws. While economic incentives offer no panacea, their virtue lies in reducing the conflict between environmental protection and economic development, easing the transition to a sustainable relationship between the economy and the environment, and promoting the development of new, more environmentally benign production processes. Such an approach could be written into a management plan to protect the salmon runs on the Columbia and the Snake.

Nobel prize-winner

One of the 1990 Nobel Memorial Prizes in Economic Science was recently awarded to former University of Washington professor William Sharpe for research he did while at the School of Business. Sharpe, a finance professor, developed the capital asset pricing model (CAPM) to identify the part of a security risk that can be eliminated through diversification and the part that cannot. Essentially, CAPM describes two kinds of risk: systematic risk is the variability in a stock's price that is caused by general movement within the stock market, and unsystematic risk is due to firm-specific factors, such as a strike or the discovery of a new technology. An investor can eliminate unsystematic risks by diversifying his or her stock portfolio. The important insight of Sharpe's model is that investors have a rational way to decide on the level of risk they want to bear and the possible rewards they can expect.

Shifts in Personal Income Composition: The Graying of the Northwest

by Gary W. Smith and Robert A. Chase

We tend to think of personal income as wages and salaries, and we equate a high personal income with high wages. But not all income takes the form of wages and salaries, and the composition of personal income has shifted dramatically.

In 1969 transfer payments and property income accounted for 22.6 percent of total personal income in the United States; by 1988 the total had increased to 31.4 percent. The Northwest's transfer payments and property income growth topped the national average during the 1970s and 1980s, and the region's recent shift in personal income composition has been even more pronounced than that of the nation.

Why has the composition of personal income shifted from earnings to transfers and property income? What caused these shifts? Did the strong growth in property income and transfer payments during the 1970s and 1980s contribute to the resurgence of personal income growth in the Northwest? Which particular areas within the three states have benefited from the growth in these income sources?

Sources of Personal Income

The Bureau of Economic Analysis, which compiles national, state, and county personal income statistics, groups personal income into three major categories: net earnings; dividends, interest, and rent; and transfer payments. Net earnings, which accounted for 68.6 percent of the nation's total personal income in 1988, can be considered as payment for current labor services. Net earnings include wages and salaries, tips, commissions, in kind payments (nonmonetary income such as food and lodging), proprietors' income, and "other labor income," which consists of employer contributions to private pension and group insurance funds. The contributions that individuals make to social insurance programs—Social Security taxes, for instance—are excluded from net earnings.

The remaining 31.4 percent of personal income was split between dividends, interest, and rent—which we call property income—and transfer payments. Interest payments are by far the largest component (82.9 percent) of property income; dividends and rents represent a relatively small share of the total (14.8 and 2.3 percent, respectively). Interest income includes not only monetary interest, but interest in kind, or imputed interest (the value of services provided by financial institutions to depositors without charge, such as check clearing, for example). Imputation also refers to the credit given by life insurance or private noninsured pension funds on behalf of the future recipient. Dividends are payments in cash or other assets, excluding stock, by corporations. Rental income refers to the income received from real property, as well as royalties from patents and copyrights. Homeowners also earn imputed rent, the estimated net income they would receive if they rented their homes to someone else.

Retirees—the "silver-haired economic base"—are a new and emerging source of basic income.

Transfer payments, which are commonly referred to as "unearned income," are payments from the government to people for reasons other than labor services. Transfers range from retirement and disability insurance programs to income maintenance programs, unemployment compensation, and veterans benefit payments. Retirement-related transfers include Social Security, disability, and medical payments (Medicare and Medicaid); and specific retirement funds for railroad workers, federal civilian workers and military personnel, and state and local government employees. More than three-fourths of all transfer payments in 1988 fell within the retirement category and accounted for 11.3 percent of U.S. personal income that year.

For individuals and families, a high earnings level means more savings, which can be used to acquire and accumulate the assets that yield property income in return. For many people, transfer payments are closely linked to the level of their past earnings. Government pensions are an obvious example, for the amount an individual is entitled to is directly tied to his or her past earnings.

For regions and communities, property income and transfer payments can be viewed as "footloose," meaning that the spending and saving of income from these sources are not necessarily tied to the particular location where the investments were made or the past labor services were performed. As a result, many communities are paying increased attention to attracting those who have these income sources. Retirees, in particular, are a new and emerging source of basic income, and economic developers now refer to the "silver-haired economic base."

Growth and Change of Personal Income Components

During the last two decades, earnings grew at a slower rate than property income or transfer payments. Transfers registered a 170 percent increase in real terms between 1969 and 1988, and property income grew by 123 percent. Net earnings, in comparison, increased by only 54 percent. Over the 20-year period, transfers and property income grew at an average annual rate of 4.8 percent (after adjusting for inflation), a figure that was double that for net earnings (Figure 1).

In the Northwest, retirement-related transfers were the leading source of personal income growth in all three states in the last two decades. With average growth rates exceeding 6 percent, these transfer payments outdistanced the growth rates of earnings by more than two to one. Property

income growth in the three states also exceeded earnings growth.

But do these figures represent a fundamental shift in the composition of personal income in the U.S. economy? Some economists would argue that the shift is not unusual, for earnings have been declining as a share of total income, and property income and transfer payments have been increasing since World War II. What has been unusual—and rather dramatic—about the last two decades is the size of the increases in both the property income and the transfer payment components relative to the more modest growth in earnings.

Older and Wealthier

In general, the change in personal income composition reflects two current demographic and economic trends: the aging population and the vast improvements in the economic well-being and financial security of senior adults. Nationally, the number of people 65 and older increased by 51 percent between 1970 and 1988; the number of people under 65 grew by just 18 percent. As a result, the number of retirees rose steadily from 9.9 percent of the population in 1970 to 12.4 percent in 1988.

In the Pacific Northwest, the retirement age population increased by 73 percent between 1970 and 1988; the number of people under 65 grew by 31 percent. Thus, the 65 and older age group grew from 10.1 percent of the Northwest's population in 1970 to 12.8 percent in 1988. Altogether the number of senior adults in the Northwest amounted to 1.083 million in 1988. This exceeds the entire population of Idaho (1.003 million).

The aging trend will continue: the number of senior citizens is expected to more than double in the next 50 years. The Bureau of the Census projects that more than one in five Americans will be 65 or older by 2030. Not only is the proportion of retired Americans rising, but since the 1960s there has been a continuing net migration of people 65 and older from metropolitan to nonmetropolitan areas.

In contrast with the needs for younger people, the migration pattern of the senior population is not strongly tied to employment opportunities. Among the factors underlying the urban to rural migration pattern of retirees are the amenities associated with living in a more natural environment, outdoor recreational opportunities, and lower housing and living costs. Other important quality-of-life factors for retirees that do not necessarily favor rural areas are climate, cultural amenities, and the availability of health care and personal and social services. Rural areas within the Pacific Northwest that have emerged as destinations for inmigrating retirees include the north coast of Washington, northern and westcentral Idaho, and central, southwestern, and the north coast of Oregon (see map). These areas are drawing retirees from within the region, as well as from other states across the nation. But California—by virtue of its proximity, size, escalating urban congestion, and rising cost of living—is the principal state of origin for those who are attracted to the region.

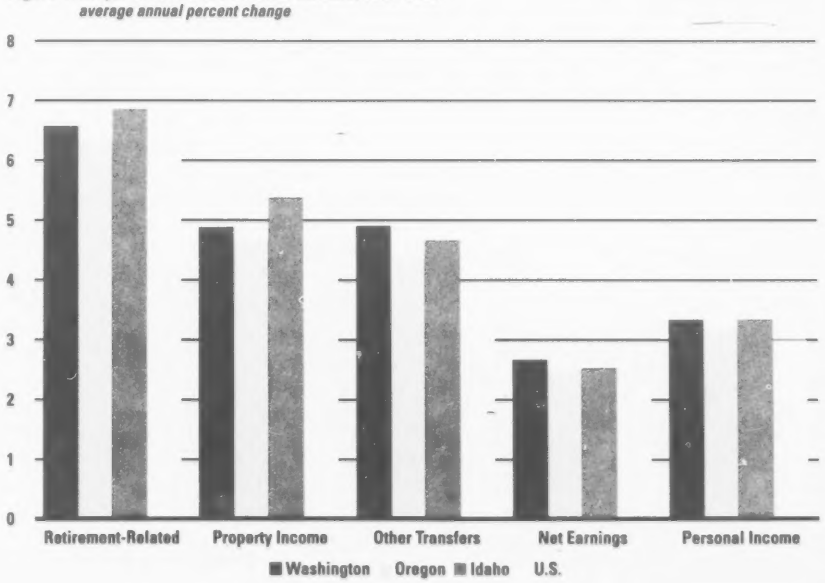
The "graying of America" refers not only to the growing number of senior adults, but to their rising income levels and increased purchasing power. As a group, the elderly have benefitted most from the rapid rise in transfer payments and property income in recent years. In 1959 32.5 percent of the people 65 and older lived in poverty, compared with 20 percent of the people under 65 (a ratio of 1.68 to 1). In 1988 the poverty rates for the two groups were 12.0 and 13.1 percent, respectively (for a ratio of 0.92 to 1). Transfer payments and property income are, quite simply, the primary sources of income for the increasingly prosperous senior segment of our society. According to Bureau of Census surveys, the elderly receive 32 percent of the property component of personal income.

Private pension income is also increasing in size and importance. But unlike government retirement programs, which are identified and recorded as a component of transfer payments, private pensions are not reported as a separate component of personal income. Because only a portion of private pensions are reported as "other labor income" in state and county personal income statistics, the impact of private retirement income is understated.

One reason for the growing importance of property income and transfer payments is the extraordinary growth in property income during the late 1970s and early 1980s, when inflation, real interest rates, and the value of assets reached unprecedented levels. During this recession-ridden period, however, net industry earnings were stagnant or declined. Although industry earnings growth rebounded during the ensuing expansion, it was outpaced by the growth in property income.

In addition, transfer payments rose sharply during the first part of the 1970s, the result of legislation that broadened eligibility coverage and boosted benefit levels for such programs as Social Security, Medicare, and government retirement and disability programs. In the mid-1970s, many transfer payment programs became tied to a price index so that payment levels would adjust automatically to the rate of inflation. Inflation-induced increases were especially

Figure 1: Major Sources of Personal Income, 1969-1988
average annual percent change



prominent during the late 1970s and early 1980s.

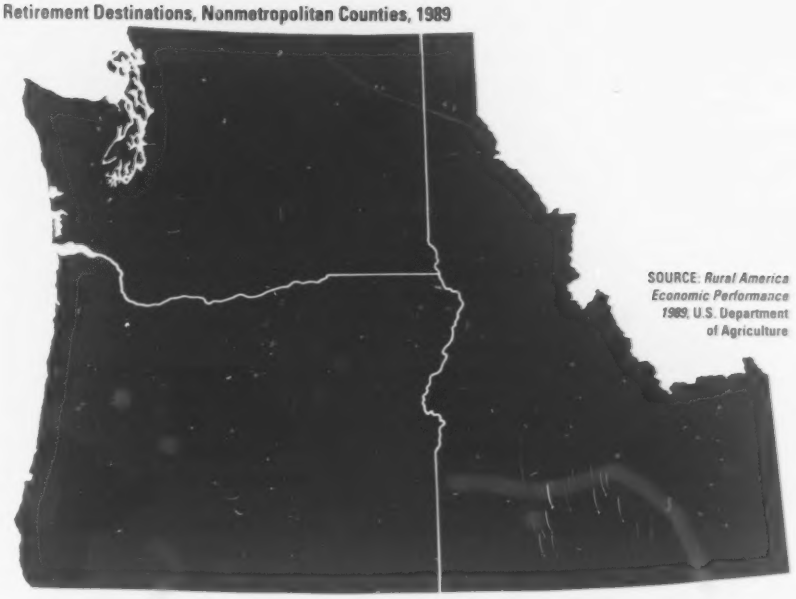
Extreme Shifts in Composition

The importance of property income and transfer payments within a region or community depends not only on how much workers earn, but also on the number of people not working compared with the total population. If a large percentage of adults is not employed, transfer payments may be relatively high. The percentage of the adult population not working depends, in turn, on the portion of the population that elects not to work (retired or discouraged workers), those who are willing to work but are unsuccessful in finding full-time employment (the unemployed and the disabled), and those who live below the poverty level (the working poor and the disabled).

Given the differences in population, industry, and the pattern of economic growth within the Pacific Northwest, it is surprising to note that remarkably little variation exists among the three states in terms of the average annual growth rates of the major income components from 1969 through 1988. These long-term averages, however, obscure the effects of the high personal income growth rates that occurred during the 1970s in Idaho and Oregon. Idaho led the region in retirement-related transfer payment growth (6.9 percent), followed by Washington (6.6 percent) and Oregon (6.4 percent). Property income growth in Idaho exceeded net earnings growth by a ratio of more than two to one, and surpassed the growth rates for both Washington and Oregon.

When compared with the nation, all three Northwest states displayed a more extreme shift in the composition of personal income (Figure 2). In Idaho, for example, the percent share of personal income attributed to net earnings dropped 11.6 percent between 1969 and 1988. In Oregon, the decrease was 9.9 percent; in Washington, 9.8 percent. Retirement transfers recorded the greatest gain in income share, and offset more than 50 percent of the loss in net earnings. The pronounced shifts in income composition among the three states materialized not because the Northwest's earnings growth rates lagged behind that of the nation, but because transfer payments and property income growth tangibly outpaced the national average. In all three states, roughly one out of every three dollars of personal income stemmed from either transfer payments or property income.

Retirement Destinations, Nonmetropolitan Counties, 1989



SOURCE: *Rural America Economic Performance 1989*, U.S. Department of Agriculture

Although the composition of personal income in Washington, Oregon, and Idaho is roughly comparable, the dissimilarities are clear when actual income figures are expressed in per capita totals. Washington's per capita income of $16,468 was roughly equal to that of the nation, and per capita levels for the major income components were also similar to national averages. In Oregon, however, the per capita levels for retirement-related transfers and property income were 4 percent below the national averages, and the state's $14,881 per capita income trailed the national average by almost 10 percent. In Idaho, the per capita level for retirement-related transfers amounted to 86 percent of the national average, and the state's $12,595 per capita income totaled only 75 percent of the national average.

Stability Over Time?

The Pacific Northwest is notorious for its boom-and-bust economic history. Earnings in wood products, construction, and mining have been particularly volatile over the business cycle. Some transfers, such as unemployment compensation and income maintenance programs, increase dramatically during recessionary periods and decrease during times of recovery. The countercyclical performance of unemployment insurance comes as no surprise, for these payments were originally intended to perform as "automatic stabilizers" within the national economic setting.

Retirement-related transfer payments and property income, however, display a historical pattern of stable, noncyclical growth that serves to dampen cyclical swings in personal income. Statistical analyses reveal that the pattern of growth of these income sources is not associated with the concurrent performance of the national economy. These income sources help cushion local and regional economies from the effects of a national recession.

Urban Versus Rural

Within the Northwest, the growth of total personal income in rural counties has been outdistanced by the income growth in urban areas. These disparities are extreme in Idaho and less noticeable in Washington and Oregon. In terms of the three components of personal income growth, net earnings were highest in urban counties, and retirement transfer payments in rural counties surpassed those of urban areas. Property income growth in the rural areas of Oregon and Washington also exceeded their metropolitan counterparts. This is not the case in Idaho.

It is simply impossible to assess the

(continued on page 14)

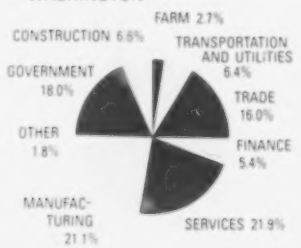
REGION WATCH

MAJOR VARIABLES, 1989

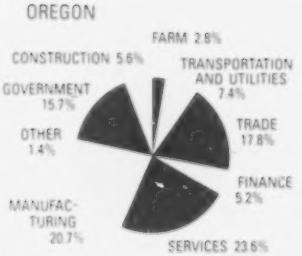
	WA	OR	ID
Total Personal Income *(in millions $)*	84,011	44,892	13,898
Population *(in thousands)*	4,761	2,820	1,014
Personal Income Per Capita *(in $)*	17,647	15,919	13,707
State Rank	16	28	40

SOURCES OF PERSONAL EARNINGS, 1989

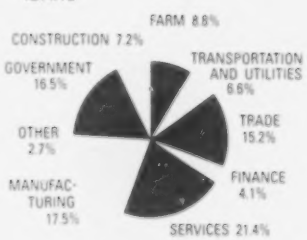
WASHINGTON



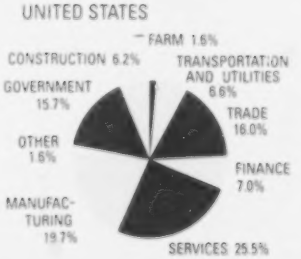
OREGON



IDAHO



UNITED STATES



TOTAL PERSONAL INCOME
in millions $

YEAR	WA	OR	ID
1940	1,130	646	239
1941	1,532	867	297
1942	2,254	1,248	436
1943	2,938	1,681	507
1944	3,234	1,721	559
1945	3,143	1,696	552
1946	3,188	1,835	608
1947	3,315	2,035	663
1948	3,633	2,295	739
1949	3,633	2,279	727
1950	4,082	2,526	784
1951	4,509	2,832	879
1952	4,800	3,010	961
1953	5,071	3,058	923
1954	5,203	3,026	932
1955	5,482	3,269	981
1956	5,761	3,500	1,078
1957	6,126	3,502	1,138
1958	6,281	3,594	1,165
1959	6,671	3,892	1,234
1960	6,914	4,019	1,263
1961	7,261	4,168	1,340
1962	7,831	4,432	1,437
1963	8,054	4,678	1,469
1964	8,416	5,039	1,518
1965	9,094	5,497	1,736
1966	10,322	5,952	1,771
1967	11,277	6,310	1,882
1968	12,532	6,874	2,004
1969	13,593	7,524	2,260
1970	14,234	8,169	2,486
1971	14,961	8,920	2,723
1972	16,163	10,006	3,097
1973	18,300	11,342	3,635
1974	20,722	12,816	4,265
1975	23,258	14,072	4,548
1976	26,071	16,058	5,148
1977	29,153	18,082	5,673
1978	34,250	20,822	6,579
1979	39,486	23,658	7,289
1980	44,562	26,063	8,129
1981	49,260	27,989	8,946
1982	51,420	28,263	9,079
1983	54,552	30,010	9,778
1984	58,416	32,302	10,357
1985	62,032	33,951	10,869
1986	66,280	35,479	11,198
1987	70,560	37,721	11,836
1988	76,131	40,991	12,686
1989	84,011	44,892	13,898
1990 I*	89,229	47,303	14,909
1990 II*	90,127	48,098	14,977

*Annual rates

PERSONAL INCOME, 1989
in millions $

	WA	OR	ID
TOTAL PERSONAL INCOME BY PLACE OF RESIDENCE	84,011	44,892	13,898
Nonfarm Personal Income	82,368	43,967	13,005
Farm Personal Income	1,643	925	893
Population (in thousands)	4,761	2,820	1,014
Per Capita Personal Income (in dollars)	17,647	15,919	13,707
DERIVATION OF TOTAL PERSONAL INCOME			
Earnings by Place of Work	60,397	32,464	10,162
Less: Personal Contribution for Social Insurance	3,946	2,345	669
Plus: Adjustment of Residence	614	(341)	73
Equals: Net Earnings by Place of Residence	57,065	29,779	9,566
Plus: Dividends, Interest, and Rent	14,281	7,978	2,177
Plus: Transfer Payments	12,665	7,135	2,155
COMPONENTS OF EARNINGS BY PLACE OF WORK			
Wages and Salaries	48,608	25,330	7,210
Other Labor Income	4,169	2,443	665
Proprietors' Income	7,619	4,691	2,288
Farm	1,322	728	743
Nonfarm	6,297	3,962	1,545
EARNINGS BY INDUSTRY			
Farm	1,643	925	893
Nonfarm	58,753	31,538	9,268

NONFARM EARNINGS BY INDUSTRY, 1989
in millions $

	WA	OR	ID
AGRICULTURAL SERVICES, FORESTRY, FISHERIES, OTHER	872	369	127
Agricultural Services	346	197	118
Forestry, Fisheries, and Other	512	172	9
MINING	289	73	151
CONSTRUCTION	4,016	1,813	729
MANUFACTURING	12,758	6,714	1,782
Nondurable Goods	3,270	1,581	722
Food and Kindred Products	904	524	392
Paper and Allied Products	902	404	83
Printing and Publishing	548	342	83
Chemicals and Allied Products	518	77	143
Durable Goods	9,488	5,133	1,060
Lumber and Wood Products	1,138	2,073	550
Machinery, Except Electrical	611	603	205
Primary Metal Industries	524	462	6
Transportation Equipment	5,368	213	14
TRANSPORTATION AND PUBLIC UTILITIES	3,947	2,388	672
Railroads, Trucking, Water, and Other	2,528	1,457	347
Communication	975	548	124
Electric, Gas, and Sanitary Services	345	382	138
WHOLESALE TRADE	3,750	2,311	534
RETAIL TRADE	5,922	3,455	1,006
FINANCE, INSURANCE, AND REAL ESTATE	3,285	1,684	419
Banking	1,219	594	171
Other Finance, Insurance, and Real Estate	2,066	1,090	248
SERVICES	13,220	7,646	2,170
Business Services	2,588	1,487	521
Health Services	4,344	2,603	635
FEDERAL AND CIVILIAN	2,257	1,029	363
MILITARY	1,386	112	154
STATE AND LOCAL	7,231	3,946	1,163
TOTAL NONFARM EARNINGS	58,753	31,538	9,268

PERSONAL TAX AND NONTAX PAYMENTS, 1989
in millions $

	WA	OR	ID
FEDERAL GOVERNMENT (net of refunds)	9,029	4,319	957
Individual Income Tax (net of refunds)	8,720	4,182	916
Individual Income Tax (gross)	9,935	4,778	1,062
Less: Refunds	1,214	596	147
Fiduciary Income, Estate and Gift, Nontax	309	138	41
STATE GOVERNMENTS	698	2,342	502
Individual Income Taxes	0	1,840	376
Death and Gift Taxes	15	14	2
Motor Vehicle Taxes	142	56	27
Other Taxes	26	23	15
Nontax Payments	514	409	83
LOCAL GOVERNMENTS	704	380	230
Other Local Taxes	29	29	2
Local Nontax Payments	675	351	228
STATE AND LOCAL PERSONAL PROPERTY TAXES	84	0	0
TOTAL PERSONAL INCOME	84,011	44,892	13,898
Less: Total Personal Tax and Nontax Payments	10,515	7,041	1,689
Equals: Disposable Personal Income	73,495	37,851	12,209
PER CAPITA DISPOSABLE PERSONAL INCOME	15,438	13,422	12,041

TRANSFER PAYMENTS, 1989
in millions $

	WA	OR	ID
GOVERNMENT PAYMENTS TO INDIVIDUALS	11,864	6,672	2,008
Old-Age, Survivors, and Disability Insurance	4,262	2,900	877
Medical Insurance Payments	2,618	1,546	437
UNEMPLOYMENT INSURANCE BENEFITS	404	227	68
INCOME MAINTENANCE BENEFIT PAYMENTS	937	467	108
Aid to Families with Dependent Children	438	143	19
Food Stamps	166	154	37
VETERANS BENEFIT PAYMENTS	390	226	65
BUSINESS PAYMENTS TO INDIVIDUALS	450	248	81
TOTAL TRANSFER PAYMENTS	12,665	7,135	2,155

PERCENT CHANGES IN PERSONAL INCOME
seasonally adjusted annual rates

YEAR	QTR	US	WA	OR	ID
1985	I	2.3	2.3	1.5	1.1
	II	1.4	1.0	0.9	0.1
	III	0.7	0.9	0.5	-0.5
	IV	2.0	2.0	1.8	2.5
1986	I	1.7	1.6	0.4	-1.4
	II	1.7	1.8	1.6	2.0
	III	0.7	1.3	1.2	1.6
	IV	1.6	3.5	1.7	1.9
1987	I	2.1	0.5	1.2	0.5
	II	1.5	1.8	1.8	1.6
	III	1.6	1.3	1.8	0.8
	IV	3.4	2.9	2.6	1.3
1988	I	0.9	1.5	1.9	1.5
	II	2.1	2.1	2.4	2.9
	III	1.5	1.4	1.6	1.4
	IV	2.0	2.2	2.9	3.2
1989	I	2.1	3.3	1.5	4.3
	II	1.7	2.1	2.3	1.5
	III	1.1	1.9	0.9	-0.9
	IV	2.0	2.5	3.0	4.7
1990	I	1.9	2.8	2.7	3.5
	II	1.3	1.0	1.7	0.5

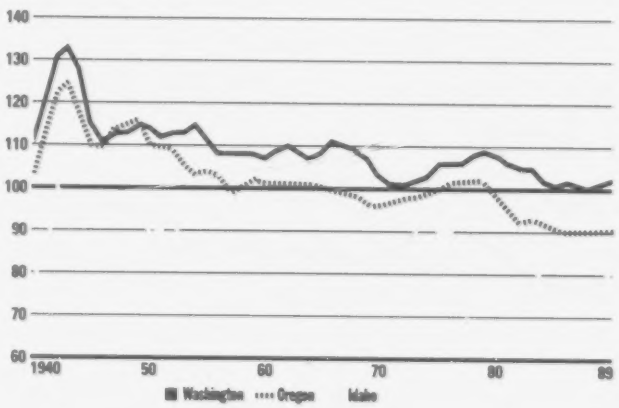
An Explanation of Personal Income

State personal income accounts constitute the single most important source of information about the income conditions of a state's residents. Used in conjunction with other statistics, personal income data not only form the basis for determining people's well-being, but are useful in making economic forecasts, assessing market opportunities, and determining the allocation of payments for government programs.

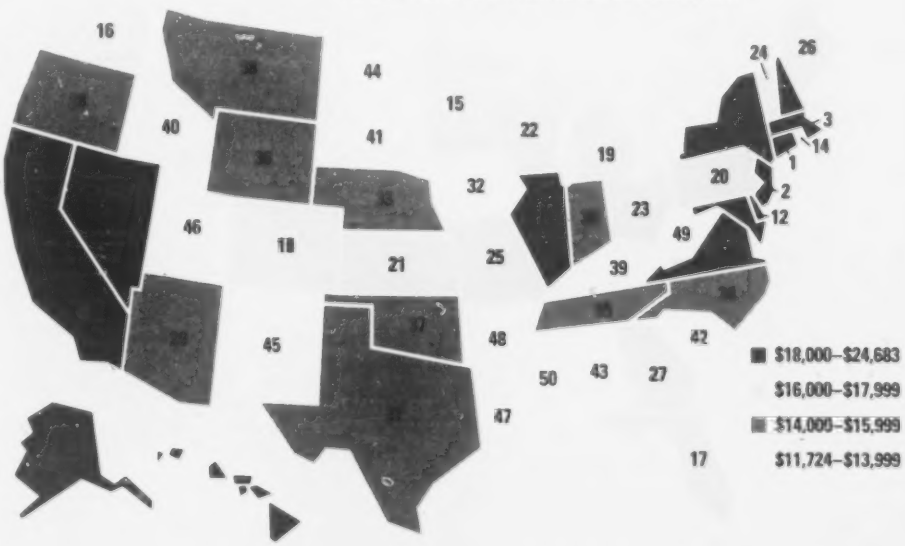
A state's personal income is defined as the income received by, or on behalf of, its residents, excluding those who are temporarily working abroad. It consists of income received by individuals from all sources: wages and salaries of employees, net income of proprietors, dividends, net interest, rent, and transfer payments (defined as payments for which current services are not rendered). Personal income is a description of the income people received, as distinct from Gross National Product, which measures the value of goods and services produced.

Personal income is estimated by the Bureau of Economic Analysis (BEA), a section of the U.S. Department of Commerce. The BEA reports national personal income monthly and publishes estimates for states quarterly, with a lag of about five months. The BEA makes county estimates on an annual basis, with publication lagging by more than a year.

PER CAPITA PERSONAL INCOME
as percent of U.S. 1940-1989



PERSONAL PER CAPITA INCOME AND RANK, 1989



(continued from page 11)
changing character of rural economies within the Northwest without giving attention to transfer payments and property income. From 1969 though 1988, these two income components accounted for 53 percent of personal income growth in rural Idaho, 54 percent in Oregon, and 60 percent in Washington.

Throughout the 1980s, most rural counties in the Pacific Northwest experienced economic stagnation or outright decline. One of the few bright spots on the rural economic scene was the continued economic growth and expansion of rural retirement areas. A recent U.S. Department of Agriculture study, *Rural America Economic Performance 1989*, classified 25 Northwest rural counties as retirement destinations, including Bonner in Idaho (Sandpoint), Josephine in Oregon (Grants Pass), and Jefferson in Washington (Port Townsend). These three counties were among those whose elderly population grew by at least 15 percent from inmigration during the 1970s. In 1988 more than 45 percent of personal income in Josephine and Jefferson counties was based on retirement-related transfers and property income. In Bonner County, those sources totaled 37 percent.

People with Money

The expansion of employment and earnings in the industries that export goods and services outside the region is commonly assumed to be critical to economic development. Increases in other income sources, such as transfer payments and property income, are viewed as a consequence, rather than a cause, of regional growth and development. Although these assumptions may have been appropriate during times past, we now know that they are less applicable today. Transfer payments and property income present definite opportunities for state and local economic development. Too often, these opportunities are overlooked.

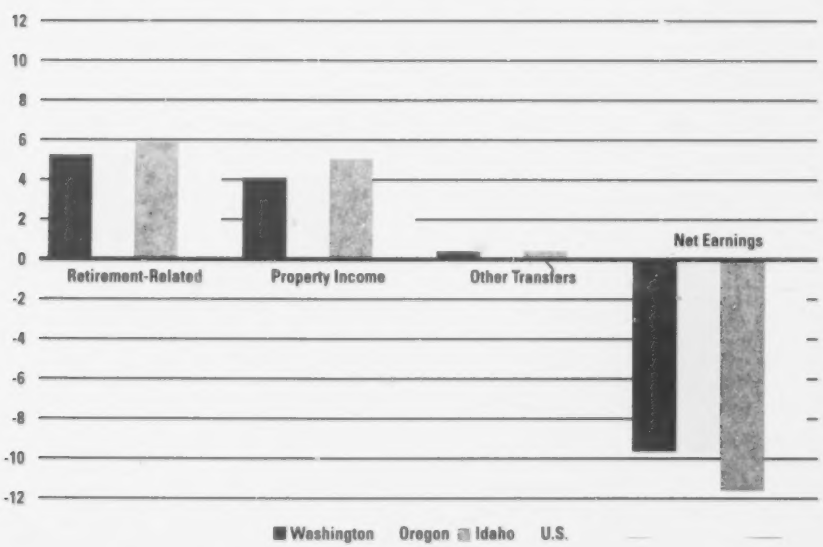
It is true that jobs attract people, but people—especially people with money—also attract jobs.

It is true that jobs attract people, but people—especially people with money—also attract jobs. Retirees who are mobile and affluent represent a potential source of purchasing power and job growth for some of the rural areas in the Northwest that have been hurt by decreased earning and employment prospects in their traditional mining, wood products, and agricultural industries. Granted, this "silver-haired" economic base does not often provide jobs that pay the same level of average annual earnings or that require the same types of skills as those in the resource-based sectors. Nonetheless, communities such as Sandpoint, Grants Pass, and Port Townsend can bolster local employment and income by encouraging retirement spending.

Yes, there are economic and social costs, as well as benefits, associated with inmigrating retirees. Some communities attract retirees without conscious or deliberate effort, and are ill-prepared to cope with the changing economic and social conditions that result. By viewing inmigrating retirees as a threat, some communities incur the associated costs without exploiting the economic opportunities and realizing the potential benefits. In contrast, other communities are losing their well-heeled retirees and are effectively exporting a portion of their economic base to other regions. Implicitly, they are relinquishing a crucial opportunity to enhance and stabilize their economic growth. Economic development efforts that cater to retirees —by improving the quality and quantity of health care, leisure and recreation activities, transportation, education, and personal services—are also complementary ingredients for success in attracting and retaining businesses.

Transfer payments, property income, and retirees are shaping and shifting the economic fortunes of many rural communities within the Pacific Northwest. Changes in the age structure and income composition of American society have important implications for the location and pattern of economic growth within the region. Shifts in income composition have accompanied the aging of our population in recent years, and this aging trend has not peaked, but will extend well into the next century. Retaining, attracting, and accommodating the senior adult population for the net benefit of the local economy is not the silver bullet that will assure community survival and prosperity, but it is one economic development option that should not be overlooked.

Figure 2: Change in Share of Personal Income, 1969 and 1988
by source



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The Professional Sector in Washington State

Discussions of structural change within the economy tend to focus on either shifts in employment and output among industry sectors or changes in income sources. No one disputes that fundamental changes have occurred in employment and income trends. But despite the significant shifts in employment among sectors, changes in the broad occupational categories within these sectors appear to be even more dramatic.

Since the beginning of this century, there has been a general and consistent increase in the number of workers who spend their day in front of office equipment and a sharp decline in demand for those workers who earn their wage by the strength of their backs or the talents of their hands (Figure 1). In particular, farm workers, who represented more than 35 percent of the work force at the turn of the century, now constitute less than 3 percent of the total. Craft workers and operatives, such as mechanics and carpenters, made up 23 percent of the labor force in 1900 and increased to more than 34 percent in the 1950s, but their numbers have since fallen. The demand for clerical workers has grown since the early 1900s, although the trend has slowed in recent years.

Largely undetected amid these sweeping occupational changes is a central theme: the labor force, especially during the last 40 years, has become increasingly professional. In 1900 just 4 percent of all the people employed were "professional, technical, and kindred" workers. By 1950 this professional ratio had doubled to 9 percent of the total work force; it doubled again, to 18 percent, by 1988.

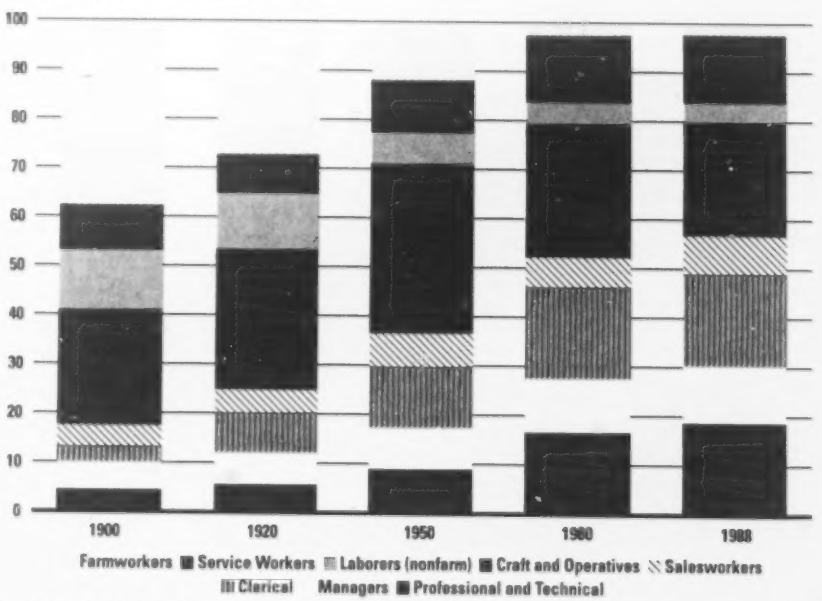
According to the U.S. Bureau of Labor Statistics and the Bureau of the Census, the classification that we call professional, technical, and kindred workers includes accountants, auditors, and other financial specialists; purchasing agents; engineers and architects; life and physical scientists; computer scientists; social scientists; lawyers; teachers, educators, and librarians; health practitioners and technologists; and writers, artists, entertainers, and athletes. In 1950 such workers were concentrated in a small cluster of industries that included education, legal, health care, and social services. By the late 1980s, they could be found within industries ranging from high-technology and producer services to entertainment and communications; from oil and gas extraction to the government. This group of professionalized industries forms one of the most successful sectors—in terms of international competitiveness, technical advances, and income and value added per worker—within the U.S. economy.

The Role of the Professional

Sociologist Max Weber once quipped that "while intellectuals live for ideas, professionals live off ideas." Professional and technical workers are distinguished from others by their vocational relationships to formal bodies of knowledge. Their work typically involves the custom application of sophisticated knowledge to practical problems. From medicine, engineering science, and law to computer science, business, and public policy, these employees are highly specialized and dependent on education. Higher education (and, to a certain extent, vocational education) plays a key role in preparing professionals and technicians. Education provides more than just training; it promotes the creation, certification, and dissemination of new ideas and techniques.

Within this professional base, expertise typically resides with the employee, the work is largely nonrepetitive, and the direct work outputs are not readily measurable. These workers are also generally mobile, moving from one location and industry to another. Industries that employ large numbers of professional and technical workers are heavily dependent on the productivity of their knowledge workers, the advancement of these formal knowledge systems, and the transfer of ideas into practice. The performance of firms within these industries is tied directly to the quality of their professional work force. Although specific information on productivity is lacking, productivity increases are directly correlated with those firms and industries that have

Figure 1: Composition of the Labor Force



Note: Due to changing classification systems, figures are approximate.
SOURCES: U.S. Bureau of the Census, *Historical Statistics of the United States, 1975* and *Statistical Abstract of the United States, 1990*

high rates of research and development expenditures. R&D expenditures, in turn, imply the use of professional and technical workers.

In professions with strong research and development units, technical change is transmitted through seminars, professional journals and associations, and public and private regulatory bodies, such as patent offices. But the magnitude and direction of technical change remains unpredictable, which makes long-term investment decisions regarding physical or human capital extremely difficult. Within a decade, computer technology, medical transplants, and food packaging will be significantly different than they are today. Companies with large numbers of professional and technical workers need to remain flexible to accommodate the inevitable disruptions that arise as innovations or products are transferred from the lab to the marketplace.

An Industry's Conceptual Content

Unlike the basic map of U.S. industrial structure, which classifies sectors according to the primary good or service produced, the professional sector focuses on knowledge and ideas, and groups industries on the basis of similarities in the composition of their work force.

Steven Sass, an economist at the Federal Reserve Bank of Boston, recently introduced a measure to define the industries that make up the professional sector. His *professional ratio* is simply the percentage of professional, technical, and kindred workers in the employed labor force of an industry or region. Although it's reasonable to assume that these workers are spread across all industry sectors, their importance—as measured by the professional ratio—varies. For instance, professional ratios in the 1988 U.S. economy ranged from a high of 69 percent in the engineering and architectural services sector to a low of 1 percent in the auto repair and service industry. Sass's ratio, which identifies the sectors that have high levels of research and development activity and that see product development as a significant, continuous, and professional-intensive activity, is thus a gauge of the conceptual content of an industry.

Industries within the U.S. professional sector must have a ratio of at least 20 percent (the overall national average is 18 percent). Although this minimum appears arbitrary, it actually represents a significant threshold. An industry's "professional" character requires a strong emphasis on technical activity, such as R&D. In 1980 the professional sector of the U.S. economy included 12 industries with a ratio of 20 percent or more; by 1988, the number had grown to 17 (Table 1).

Table 1: The U.S. Professional Sector, 1980 and 1988

	1980		1988	
	Employment *in thousands*	Professional Ratio	Employment *in thousands*	Professional Ratio
Other Professional Service Industries	379	75.0	397	72.6
Engineering and Architectural Services	572	74.1	777	69.3
Accounting Services	515	57.7	753	56.4
Education	8,705	54.2	9,849	53.9
Legal Services	708	55.0	1,127	49.0
Hospitals	4,132	43.0	4,429	48.5
Welfare and Religion	1,684	50.7	1,963	40.5
Other Health Services	3,306	35.2	4,360	34.8
Total	20,002	49.1	23,655	48.9
Professional Business Services	876	43.6	1,654	44.2
Office Machinery	577	31.3	851	38.8
Aircraft	654		884	33.9
Petroleum and Gas Extraction	419	19.4	455	31.6
Entertainment	922	28.8	1,326	29.6
Chemicals and Allied Products	1,356	18.9	1,214	24.4
Electrical Machinery and Electronics	2,377	19.1	2,244	23.9
Communications	1,433	19.1	1,653	23.2
Instruments	622	12.9	588	22.6
Total	9,235	23.5	10,868	29.9

SOURCE: *The U.S. Professional Sector, 1950–1988*, Federal Reserve Bank of Boston, 1990

Those sectors that are employing an increasing number of professionals and technicians illustrate the massive changes taking place in the way U.S. companies are using different employee skills to produce their goods and services. Increasingly, technical change is reshaping the way work is organized and changing job definitions. Clerical jobs have been upgraded and responsibilities expanded. Data entry and analysis tasks are now frequently combined with typing, although the secretary or assistant now uses a computer and a communications network. Professional jobs are increasingly demanding, and routine tasks are being eliminated. The results, depending on the industry, is a widening of the division that separates professional and technical workers from production workers, or a blurring of the distinctions among occupations.

In addition to industry classifications, the professional sector can be subdivided into *core* and *new professional* sectors. The older and larger core group is composed of eight industries with exceptionally and consistently high professional ratios. Each of these sectors—accounting services, education, engineering and architectural services, hospitals, other health care, legal services, welfare and religion, and miscellaneous—lists professional services as its primary output. In 1950 the majority of all professional and technical workers were concentrated in the core, and these professionals dominated their respective work forces. Since 1950 employment in these eight industries has expanded rapidly, although the professional ratio has stayed relatively consistent.

In 1950 the only sector outside of the older core of professional industries with a ratio above 20 percent was the entertain-

ment industry, which employed writers, performers, athletes, and the like. In subsequent years, a number of industries that produce goods and nonprofessional services—but are still critically dependent on both professional and technical inputs—have been added. By 1988 these new sectors included professional business services (advertising, commercial research and development, computer software, and management consulting), office machinery, aircraft manufacturing, oil and gas extraction, chemicals, electrical machinery and electronics, communications, and instruments. These industries reflect the expansion and widespread adoption of sophisticated science- and computer-based technologies.

The emergence of high technology and producer services has, since the late 1970s, led to the recent professionalization of the general economy. Even those industries with professional ratios of less than 20 percent are employing more workers with science- and computer-based skills. The banking industry, for instance, adopted sophisticated new financial programming tools and computer applications during the 1980s, pushing that sector's professional ratio from 4.8 in 1980 to 10.3 in 1988. And, as firms continue to apply sophisticated innovations and the demand for professional and technical labor spreads, the potential for the continued expansion of professionals into all sectors of the national economy appears to be far-reaching.

Another avenue for the expansion of newly professionalized industries is within the international trade arena. The Federal Reserve Bank of Boston and *Pacific Northwest Executive* have both researched the relationship between manufacturing and exports, and the results reveal that five of the six leading exporters are now within the professional sector. This evidence suggests that an international division of labor developed during the 1980s, with advanced economies, like that of the United States, providing professional goods and services, and developing economies specializing in production. Those manufacturing sectors identified as most vulnerable to import competition, such as apparel, leather, lumber, and primary metals, all have low professional ratios. Even among those nonmanufacturing industries included on the 1988 professional sector list, entertainment, education, and business services (notably, computer software and advertising) are significant exporters.

The general economy, rather than the professional sector itself, is likely to be the primary source of professional and technical employment gains in the 1990s. High-tech manufacturing and services, with its strong orientation toward sophisticated science- and computer-based technologies and its comparative advantages in international trade, will lead the economy in its demand for professional and technical workers.

Washington State's Professional Sector

Several economists have endorsed the notion that regions specialize in either the development or the production of goods and services. If a region's functional specialization is product development, for example, it should have—relative to the United States as a whole—a higher professional ratio, especially in the new professional sectors. It should also have an industrial mix weighted toward these industries and have a work force with an unusually high proportion of professional and technical workers. In contrast, mass production regions will have far fewer professional, technical, and kindred workers. In these areas, craft workers and operatives, nonfarm laborers, and service workers will dominate the occupational structure. Is Washington's specialization leaning toward product development or mass production?

Professional ratio estimates for Washington, based on data from the state's employment security department, present a mixed picture. In both 1980 and 1988, the estimates characterize the state as a center of product development, especially in aircraft, chemicals, instruments, and computer software (Table 2). In 1980 and again in 1988, the state's ratio in the new professional sector exceeded that of the nation. This was not the case, however, for the state's core professional sector, which has a professional ratio that is lower than the national average. The disparity implies that the state is underserved in these sectors, and some professional functions must be imported or supplied from outside the state.

Washington's mainstay industries employ a significant number of professional and technical personnel, who purchase and operate sophisticated equipment. The state's traditional industries—lumber and wood products, primary metals, and pulp and paper—employ a greater share of professionals and technicians than the national average, suggesting that these industries have increased their ranks of professional and technical employees to maintain their competitive advantages. It is also worth noting that the presence of corporate headquarters (which often includes a firm's research and development activity and budget) within a state expands the demand for professional and technical workers.

The professional sector in Washington is similar to that of the nation: it's growing in both employment and real wage earnings, has a strong export component, and is a powerful vehicle for technical advance. Despite being a center for product development, however, Washington does not specialize in the full range of product development activities that is typically found within the new professional sector. In this state, product development activity is narrowly focused in four industries: aircraft, chemicals, instruments, and software (which is a segment of professional business services).

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In 1980 Washington's design-intensive aircraft manufacturing industry employed more than 50 percent of the professional

and technical employees in the new professional sector. By the end of the decade, the industry's share had grown to about 60 percent. But, unlike a concentration in computers, which ties a region to product development across a broad range of industries, the state's dominant orientation toward aircraft manufacturing brings an additional risk: the increased exposure to industry-specific shocks and to downswings in the national business cycle. This extra risk is superseded in part by the aircraft industry's role as a leader in receiving research and development monies from the federal government. These investments in R&D will no doubt continue to improve the industry's international competitive position. Boeing's recent launch of its new 777 series is evidence of the firm's aggressive technological leadership, as well as its reputation as a seedbed for new product development.

The state's chemical industry is dominated by the U.S. Department of Energy-funded Hanford Nuclear Reservation, located near the Tri-Cities. Because of the research complex, the area has one of the highest concentrations of scientific and technical workers in the nation: more than 40 percent of the estimated 13,000 workers employed at Hanford are classified as professional, technical, and kindred workers. Although nuclear weapons production has slumped in recent years, Hanford's newly christened mission of environmental waste management means that the region's labor assets, which are significant, will be redeployed. Hanford's new focus not only gives the region a renewed lease on economic life, the existing technological infrastructure (coupled with the federal government's increased commitment to technology transfer) increases the area's potential to spin-off potentially profitable high-tech activities.

During the 1980s, the state's instruments sector performed an uncommon feat: Washington firms recorded an average annual growth rate of 13 percent—more than double the national average. By supplying a broad variety of industrial and analytical products to U.S. manufacturers, the federal government, and foreign buyers, these firms—led by John Fluke, Eldec, Physio-Control, and Advanced Technology Laboratories—took advantage of increased industrial capital expenditures and research and development budgets. Future growth in the market demand for instruments will be closely linked with real plant and equipment spending in the overall economy and the federal government's expenditures in research and development. As investment in instrumentation continues, so too will the demand for professional and technical workers.

Table 2: Washington Professional Sector, 1980 and 1988

	1980		1988	
	Employment	Professional Ratio	Employment	Professional Ratio
[redacted]				
Other Professional Service Industries	18,615	18.9	18,770	23.8
Engineering and Architectural Services	13,201	70.5	13,838	71.0
Accounting Services	5,456	54.9	7,440	55.5
Education	8,518	60.0	12,206	65.3
Legal Services	9,161	38.6	15,015	44.5
Hospitals	35,797	54.0	44,492	56.3
Welfare and Religion	14,205	30.2	26,365	33.0
Other Health Services	59,982	40.9	86,570	37.8
Total	164,935	100.0	224,696	100.0
[redacted]				
Professional Business Services	22,403	47.2	27,600	39.0
Office Machinery	2,049	24.5	5,511	11.3
Aircraft	79,624	34.0	100,937	50.3
Entertainment	17,621	15.3	26,350	22.9
Chemicals and Allied Products	8,706	26.2	12,465	35.3
Electrical Machinery and Electronics	11,177	23.7	11,929	23.5
Communications	26,594	18.7	23,851	23.3
Instruments	6,362	23.2	12,781	29.9
Total	174,536	29.6	221,424	38.2
[redacted]				
[redacted]				

SOURCES: *Occupational Profiles*, Washington State Employment Security Department; *Pacific Northwest Executive*

The state's small but rapidly growing computer software industry is particularly well positioned for future specialization in product development. Computer software appeals to a wide spectrum of industries, and, unlike the aerospace industry, software appears to be more versatile in withstanding the inevitable downswings in business activity. Computers can assume many of the routine tasks involved in professional work, especially within the core services of accounting, engineering, health services, and education. In recent years, computer software has become one of the state's leading export products. Industry leaders such as Microsoft, Aldus, and Microrim have made Washington the nation's third leading computer software development area, and start-up companies are adding to the array of new products and the number of new professional and technical workers.

From a policy perspective, economic developers should consider supporting the infrastructure necessary to attract and retain the professional sector operations that generate jobs, income, and product innovations. The technical base within universities and government laboratories can act as both a magnet for the state's mainstay professional sector activities and, in some cases, a seedbed for new activities.

The state's economic future will depend on the quality of its professional and technical work force. Education plays a critical role in the professionalization of the state's workers, and that role will broaden to include the retraining of experienced professionals and technicians for work in new industries. This enhanced need for education will be difficult and costly, but, without it, the state may miss new opportunities for professional expansion and watch its competitive advantage in the professional sector erode. RAC

UNDERSTANDING THE DIFFERENCES

DOING BUSINESS WITH THE SOVIETS

BY ELISA MILLER

The rules for doing business with the Soviets have been changing rapidly. Before Mikhail Gorbachev's ascendancy, these mandates were simple and straightforward. A Western firm that wished to buy or sell goods or services made a visit to a Moscow bureaucrat's office between four and six in the afternoon, which were the designated hours for appointments with foreigners. That bureaucrat, who was trained in contracts and negotiations, concluded a deal only with instructions from above and only after the necessary resources (payments for imported goods or products for the export market) had been allocated.

Today, there are few rules. Political, social, and economic changes have created enough confusion and disarray that, in a sense, each Western company is on its own in terms of business endeavors, as is each Soviet firm. The Moscow bureaucracy is being dismantled (the term is *razgosudarstvo*—taking the state apart) and the "right" for organizations and individuals to make deals and trade with foreigners has been legislated. At the same time, the government's regulatory apparatus is in chaos, and the business know-how for international trade is sorely lacking.

The Lure of Prestige

Despite this confusion, increasing numbers of firms on both sides of the Pacific are interested in doing business. Negotiations are taking place and contracts are being signed. The opportunity exists now to create Soviet-American partnerships. Our observations during the last two years, however, tell us that the Soviets' eagerness to close a deal or approve a contract is motivated not only by the lure of profit, but by other factors as well. For the Soviet business manager, there is tremendous prestige in having a Western partner, for that partnership can result in a larger and more flexible sphere of activity. The perks that result from international contacts can include greater liberty for travel, easier access to goods and information, and Western fax machines and copiers.

What the Soviet partner really seeks is not so much a relationship based on a well-constructed and confirmed business plan for a mutually profitable endeavor, but a relationship based on trust, a vague notion of profit, an often inaccurate picture of the Western firm's resources, and a steadfast belief in his own ability to learn. Soviet entrepreneurs readily acknowledge their lack of Western business experience and the real and very deep differences between the two economic systems that exist in the USSR and the United States. Their assessment of the contrasts are sometimes humorous and often ironic.

"We do our work in our offices," said one Soviet manager. "You work in restaurants and cafes."

"In Seattle, you are asleep while we, in Moscow, are at work," explained another. "So in order not to wake you up—or to show our solidarity and our politeness—we sleep on the job."

"During the working day, you Americans prefer to work, do business, make money," a Moscow-based businessman reported. "But at home, at day's end, you rest, count your earnings, and make family plans. For us, it is the other way around. At work we love to take smoke breaks, discuss the sports news, talk about cars and movies. But as soon as we are home, we begin to talk about work, about the boss's stupidities, about the incompetence of others—it is always the incompetence of someone else—and the thousands of reasons that spoil success. Not much time is spent on counting our earnings in order to make family plans. We earn what we deserve—almost nothing.

"For us, you know, business is new," he added. "Even though the USSR has existed since 1917, Soviet business has appeared only in the last four or five years, with the arrival of *perestroika*. You have business people, but we have only bureaucrats."

And these bureaucrats have a knowledge of business that is unrelated to the marketplace, to market prices, or to consumer demand. They have no experience with standard accounting practices, budgetary constraints, risk, or the profit that comes as a reward for risk. They are the *nomenklatura*, the privileged elite that has been allowed to head factories and farms not because of their technical or managerial expertise, but because of their proven loyalty to the party and their willingness to follow its instructions. They are decision-takers, not decision-makers.

What Does "Doing Business" Mean?

Western executives who work directly with Soviet managers report that neither side is particularly successful at understanding the other's points of reference. The Soviet manager, for example, is used to fixed, cost-plus pricing and to such "managerial activities" as following commands

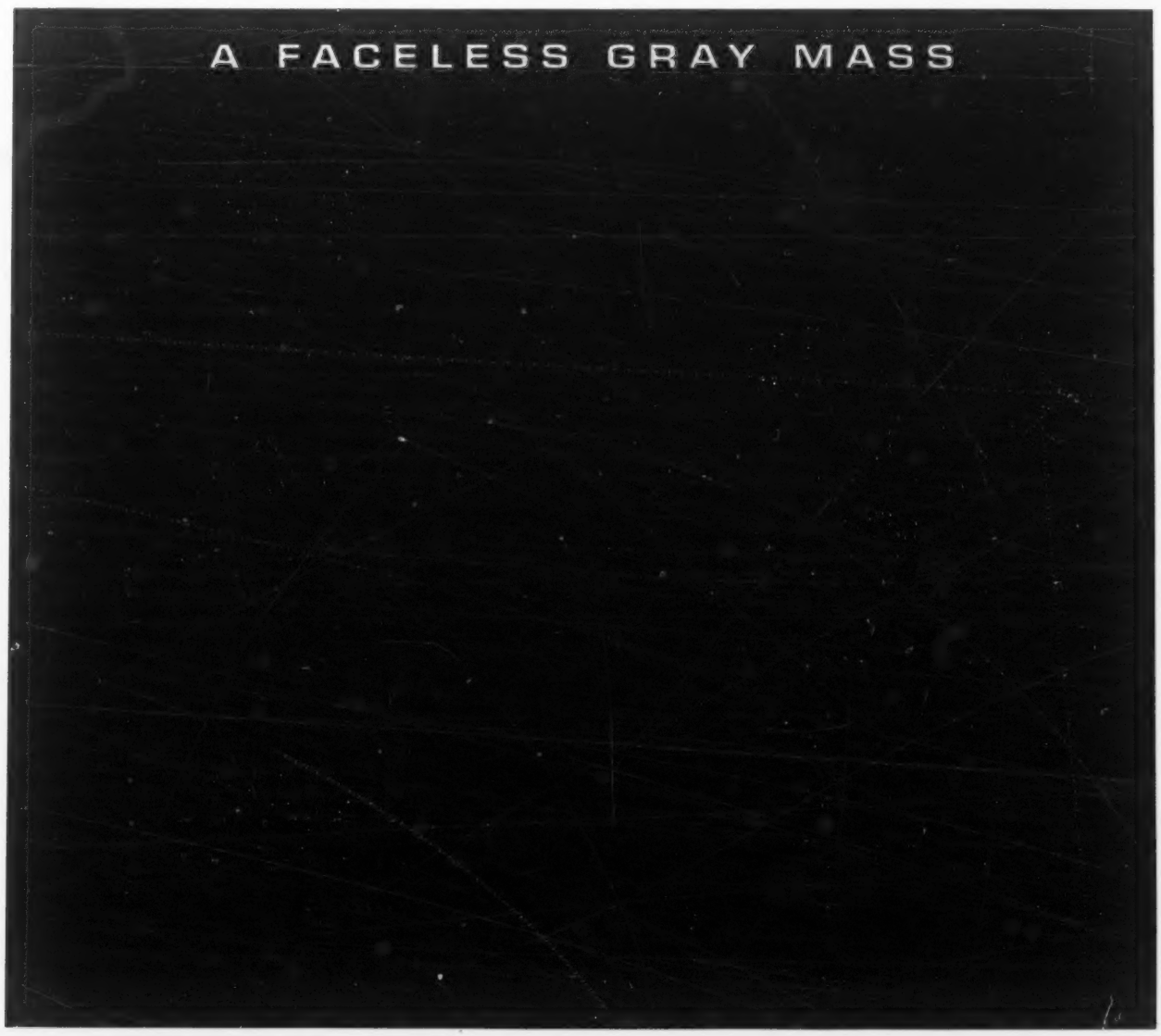
and reporting information. He is accustomed to petitioning party authorities or other higher-ups when problems occur, and responds to the investment decisions of the Soviet state, not to a system of decision-making prompted by the consumer or the individual private investor.

The American manager, in comparison, is used to fluctuating market conditions and changing consumer demand. She receives wages and salaries based not on fulfilling a government planner's orders but on such measures as productivity, commissions, and sales.

These business differences are difficult to eradicate, and they add to the Western firm's real costs of doing business within the USSR. Western firms are quickly learning that they must overcome the differences in education and management savvy by providing the training necessary to compensate for the Soviet's lack of skills or knowledge. Only then will successful cooperation with the Soviet Union be possible.

One firm that has instituted a training program is the Alaska Commercial Company (ACC), a large retail consumer goods cooperative that serves rural communities throughout the state. The company has been interested for some time in buying consumer items from its neighbors across the way, and, in return, selling American-made goods. The firm soon realized, however, that its goal of a successful business relationship was handicapped by its Soviet partners' lack of understanding as to what, in fact, doing business together entailed.

The ACC decided to combine a simple but effective program for business training with business development. In cooperation with the Department of Local Industry for the Magadan Region in the Soviet Far East and under the supervision of a Soviet manager who works within the ACC, the coop-



erative hosts a new management trainee from the USSR every three months. Before making the trip, the trainee is instructed to gather samples of local products to market in Alaska. The Soviet then spends the three months mounting an exhibit of the products he has brought, researching the market for those products, pricing them, taking orders, relaying those orders to manufacturers, and keeping track of the deliveries from prior sales exhibitions. In this way, the Soviet manager-trainee is taking a course in marketing and production scheduling. But at same time, his activities serve to develop two-way trade between the two northern regions.

Deeper Differences

The ACC's training course is an innovative way to remedy some of the problems Soviet and American managers face; management training courses and international internships can teach Soviet managers the essentials of accounting concepts, writing a business plan, turn-around time, and consumer feedback. What is more difficult to overcome, however, are the deeper differences, the ones that reach to the core of each individual entrepreneur or manager. These are the attitudes that the Soviets—and Americans too—have been taught by family, friends, and society. Our attitudes color the way we look at new situations and assimilate new information.

To discover more about these core differences between American and Soviet managers, the US-USSR Goodwill Games Business Conference set up partnerships between business people from the two nations. Nine Soviets were paired with American managers who worked in like industries: the director of a print plant in the USSR, for example, was matched with the owner of a Pacific Northwest printing firm. For four days in July, the Soviets worked in their hosts' companies, then the participants met together to discuss their observations.

For the Soviets, the trip to the Northwest was an opportunity to see American business at work, to learn about the intricacies of a capitalist market, and to see how people in the United States live. [One of the Soviet participants, Aleksandr G. Nikolaevsky, wrote the winning essay for a contest sponsored by *Pacific Northwest Executive* (page 20), describing his impressions.] For the Americans, the foreign visitors provided an opportunity to gain a realistic understanding of the business environment in the USSR and develop contacts for future business initiatives.

Tim Kennedy, the owner of Tim's Cascade Style Potato Chips, reported that his partner, the director of an agricultural cooperative, was actually more interested in environmental issues than in potato processing. "I was able to help him gather information on the environmental issues that most concerned him," Kennedy said, "and I learned a great deal along the way. I also discovered that my first foray into Soviet business doesn't have to be as a potato processor. It may even be better to start with a smaller, unrelated project."

Randy Coplen, the owner of Printing Control, said that he and his Soviet counterpart had established a working relationship prior to this U.S. visit. "Nikolai was really surprised by the extent to which we compete for customers," Coplen explained. "But then I was amazed too when I visited the USSR. After a lifetime of trying to make sales and attract new customers, I am surprised how easy it is to sell *anything* in the USSR. Anything. The task for me is not how to find Soviet customers, but to find ways that I can be paid."

First, There's Understanding

American managers who deal with Soviet bureaucrats and would-be entrepreneurs comment often on the traits and behaviors that are most difficult for them to understand. Three of the most common distinctions are rooted in the essentials of Soviet life.

►**How Do You Define "Entrepreneur"?** There are Soviet entrepreneurs and there are American entrepreneurs, but they are not engaged in the same activities. It wouldn't be fair to say that the old Stalinist system wiped out entrepreneurial spirit in the USSR. On the contrary, the country is full of entrepreneurs. A story that is frequently told to illustrate this point is about an engineer who is his own car mechanic, plumber, watch repairer, and electrician. When a visitor, after taking a look at a device the designer had fabricated, commented on the ingenious nature of the instrument, the Soviet said, "It is ingenious because it has to be. We are forced, by necessity, to come up with ingenious solutions to our problems. We don't have the luxury of buying ready-made solutions. We have to think creatively in practically every instance—when supplies or spare parts are nonexistent, when we need to use substitute materials or make do with less. In the process, we replace standard solutions with new ones, and, on occasion, we discover that we have created out of this and that a true masterpiece."

►**The Rewards for Private Initiative.** Because private enterprise in the USSR was outlawed for years, those who pursued their business interests were committing a crime against society. They were enemies of the people for accumulating wealth, and, according to popular belief, the only way the rich could be wealthy was by doing something illegal. These attitudes are at fundamental odds with American business ethics, which approves of wealth and considers business an honest activity.

One of the conference participants described his Soviet partner as "quick, daring, and entrepreneurial," yet admitted that the man had certain biases that were impossible to change. "He's secretive," the Seattle businessman said. "And he's very reluctant to earn more than a certain amount of money. He believes that if he earns even a touch too much, someone will notice and inform the Communist party, and he will receive a reprimand."

►**Who's Responsible?** The issue of control also separates American business people from their peers in the USSR. Business, according to many Soviets, is something that they have little control over. In fact, Soviets often compare the marketplace to a very dangerous game or sport in which the player is at the mercy of unpredictable outside forces. In the United States, business managers have greater confidence in their ability to influence the market through research activities and strategic planning.

There are times, certainly, when these fundamental differences hurt Soviet-American business associations and impede the development of straightforward relationships and contacts. It's not necessary to gloss over the differences or pretend that they don't exit. By acknowledging the characteristics that set us apart, we can more easily discover the values and interests that we have in common.

Elisa Miller is the managing director of Soviet Marketing Information Services and a lecturer in Soviet business and trade at the UW's School of Business.

PUBLIC PENSION FUNDS

A POTENTIAL SOURCE FOR ECONOMIC DEVELOPMENT?

BY JONATHAN KING

These are not happy times for state governments. Despite one of the longest peacetime expansions in American history, many states and local governments are finding themselves in the red or teetering on the edge. California, for example, may run a deficit of $2.5 billion in this current fiscal year. Massachusetts, where the miracle has fizzled, has had to confront a shortfall of more than $1 billion. In fact, the 1989 deficit for state and local governments (excluding social insurance funds) was $19.9 billion, according to figures from the U.S. Department of Commerce.

To make matters worse, state and local governments are having to shoulder a heavier financial burden. That's partly because the pool of federal dollars that they receive has been shrinking. In 1981 New York City, for example, received nearly 16 percent of its revenue from the federal government; that figure is now less than 10 percent. It looks as though those dollars will continue to be scarce, for the federal government remains mired in deficit problems of its own and is grappling with such financial bombshells as the savings and loan fiasco.

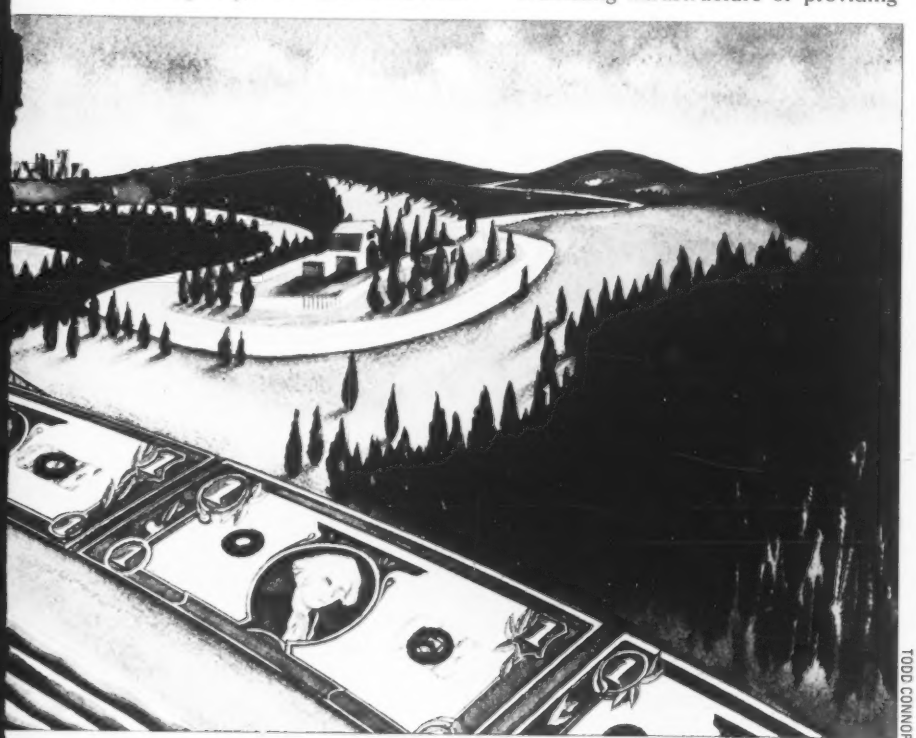
According to Oregon governor and former U.S. Secretary of Transportation Neil Goldschmidt, state and local governments paid about 78 percent of the bill for highway construction in 1988. And from 1981 to 1988, the federal share of transit funding declined by half. Early in 1990, the Bush Administration announced a national transportation policy that calls for a reduced federal role in highway building and mass transit.

The sums of money involved in road construction are mind-boggling. The Federal Highway Administration estimates that making our nation's roads meet "minimum engineering standards" will cost $565 billion to $655 billion over the next two decades. The bill for simply repairing the nation's crumbling infrastructure of roadways, bridges, waterways, and rail systems is estimated at $3 trillion.

So where is the money going to come from to pay even a fraction of the cost? The sources seem few and painfully obvious. Various states are considering raising or have already raised taxes. In 1989, 18 states pumped up their gasoline taxes, according to Goldschmidt. In New Jersey, Governor James Florio pushed through tax increases of more than $2 billion to stave off a finan-

cial crunch. Even in Washington State, where the economy is relatively healthy, the legislature has voted to boost the state gas tax by 5 cents a gallon to help pay for road construction. But the money produced by that revenue package—$1.1 billion in five years—won't even come close to funding the state's needs. According to *Route 2000*, a state study released in 1988, Washington will need at least $14.6 billion more than it can expect to take in between 1987 and 2000 simply to maintain and repair its roads.

States "can't keep raising taxes," said David Dougherty, the director of the Washington State Business Assistance Center in the Department of Trade and Economic Development. Increasing taxes, aside from being tantamount to political suicide, threatens to choke off the economic growth that is supposed to lead to additional sources of revenue, he added.



TODD CONNOR

Taking a Look at Pension Funds

As states' financial needs grow, some people are taking a closer look at a large source of money that could conceivably help finance some of these shortages. These are public employee pension funds. They aren't small change: the assets held by state and local public employee pension funds totaled more than $700 billion at the end of 1989. New York alone has nearly $100 billion in public pension funds. The Washington State Investment Board was responsible for investing $13 billion, as of the end of 1989, in public employee pension fund assets.

That kind of money can catch the attention of government officials and economic developers, especially when they're faced with the staggering problem of rebuilding crumbling infrastructure or providing much-needed capital for in-state development. Why not put some of that money to use? That's what Felix Rohatyn, chairman of New York's Municipal Assistance Corporation, wants to do. In a December 1989 article in the *New York Times*, Rohatyn proposed establishing state infrastructure banks, which would be financed by a combination of the assets of public employee pension funds and the proceeds of a tax of some variety, perhaps a statewide gasoline tax. The federal government would guarantee the portion of pension fund assets, say 10 percent, that would be invested in the development bank. The scheme, Rohatyn pointed out, could result in the public investment of at least $30 billion to $40 billion in New York during the next decade.

Few people would argue that, in theory, we need to pour a lot of money into public works. In addition, since state and local governments contribute billions of dollars in taxpayer money to pension funds each year, it seems reasonable that they should use a portion of that money as they see fit. But Rohatyn's idea appears to have little chance of becoming a reality, at least judging from the reaction of pension fund managers. "As the shortage of state tax dollars gets more acute and the pressure to tap pension fund money as if it were public money increases," stated the Council of Institutional Investors in a report titled *Our Money, Our Future*, "the need to maintain a strong Chinese Wall between those managing public pension funds and those responsible for managing government affairs becomes even greater."

For pension managers, the crux of the problem is that they are supposed to invest assets in a manner that maximizes the return to the beneficiaries. "They are legally obligated to invest exclusively for those beneficiaries. As for any kind of third-party interest, regardless of how meritorious it may be, the trustees are required not to consider [it]," explained David Weig, the executive director of the Washington State Investment Board, which is responsible for investing all but a small fraction of Washington's public pension money.

State and local governments traditionally borrow money for infrastructure construction and repair at rates that are below those that pension funds could earn simply by putting their money in treasury notes or certificates of deposit. "Government infrastructure borrowing is done in the tax-exempt market, at low rates of interest," said New York State Comptroller Edward Regan. "On the other hand, pension funds have a fiduciary requirement to earn high rates of interest." Regan is critical of Rohatyn's proposal: "Who will subsidize whom?"

Targeting Investments

Although Rohatyn's far-reaching proposal has been stonewalled by pension managers, these same investors will explain that if they could find a safe investment with comparable rates to those they can earn elsewhere, they'd be more than happy

to invest in local development projects. In Michigan, for example, $60 million in public pension funds have been directly invested in about two dozen in-state companies. The result has been the creation of more than 3,500 jobs. While these venture capital investments so far have "not performed as well as we hoped," said Michigan Treasury Department spokesman Robert Kolt, "we think that's going to improve in the future." So far the return on the state's venture capital investment is in the 3.5 percent to 4 percent range, Kolt said, which is much less than the traditional 8 to 10 percent average for pension fund investments.

A number of public pension funds around the country are giving so-called economically targeted investments (ETIs) to promote in-state development a chance. For example, 41 of the 99 public pension funds that responded to a 1989 survey by the Institute for Fiduciary Education in Sacramento, California, reported making economically targeted investments that are geographically restricted. The survey found that larger pension systems were more likely to make ETIs possible because "they tend to have more extensive staff resources and can successfully evaluate and monitor a larger array of investment types" and because they are more likely "to have larger geographic jurisdictions."

According to the IFE, economically targeted investments fall into five categories: residential housing loans, other real estate investments, small business loans, venture capital, certificates of deposit, and other miscellaneous fixed income and equity programs. The size of many ETI programs is limited. Not surprisingly, considering their relative safety, 70 percent of the nearly $7.3 billion in these targeted investments went into residential housing loans. In contrast, the combined investment in venture capital and small business loans amounted to only $460 million.

A LOT OF MONEY HAS BEEN SPENT CHASING SUCH INVESTMENTS AS LEVERAGED BUYOUTS, WHICH OFTEN END UP DESTROYING INSTEAD OF CREATING JOBS.

Washington's public pension managers have been much more reluctant to target investments in-state. A couple of years ago, David Dougherty, the state's Business Assistance Center director, endorsed a proposal that the State Investment Board buy loans guaranteed by the U.S. Small Business Administration (SBA). The proposal, Dougherty said, was for the pension funds to pick up only the portion of the loans that was guaranteed, so that the risk would be minimized. "They would [have been] holding a very secure note," he explained. The interest rate would have been roughly equal to the prime rate, and small businesses would have benefited because they would have received a fixed rather than a variable rate.

But the investment board didn't bite, Weig said, primarily because, despite the SBA guarantee, the interest was not insured, and there was a potential for long lag time between claiming the principal and receiving it should a default occur. In addition, SBA-guaranteed loans are relatively illiquid. Still, the board is not closed to the possibility of such an investment in the future. "If there's a reasonable spread between SBA-backed loans and other government-backed securities," Weig said, "it could be a very attractive investment."

The attitude of Washington's public pension managers toward targeted investments is not out of step with those of other states. Even though the IFE survey showed that pension managers report a high level of overall satisfaction with their economically targeted investments, the general mood toward geographically targeted investments is still one of extreme caution: only 9 percent of the respondents said that they had plans to expand their ETI commitments, 58 percent replied that they would not invest in such development projects, and 24 percent were noncommital.

Even in the absence of a targeted program, the Washington State Investment Board claims that it invested $470 million within the state as of the end of September 1989. That figure represents 14 percent of all the nonsecuritized assets and 3 percent of all funds managed by the board. Is that enough or too much? "I don't know," Weig said. "How much is enough is one of those questions that can be argued forever."

Much of the board's investments is in commercial real estate, such as the Two Union Square office building in Seattle. Included in the $470 million is money that the board has invested in leveraged buyouts of companies that have operations in Washington: Red Lion Inns, Safeway Stores, and RJR Associates. Whether leveraged buyouts either create or save jobs is questionable. Following the buyout of Safeway, for example, more than 10,000 of the store's employees lost their jobs.

About $6 million of the more than $232 million that the investment board has put into venture capital went to firms in Washington State. These include two Redmond-based companies: Microrim Inc., a software firm that employs 175 people, and Ecova Corporation, which is involved in on-site remediation of hazardous and toxic waste.

THE GEOGRAPHICAL CONTROVERSY

Fund managers are afraid of concentrating investment too heavily in one geographical area. State Investment Board Deputy Director D. Gregory Baarson made his position clear in a December 1988 memo to board members: "Venture capital funds whose purpose is to promote the development of small businesses in the State of Washington would be too narrowly focused from a geographical and industry perspective." Baarson recommended that the board "continue to resist the narrowly focused economic development programs, which generally tend to benefit third parties and not the pension beneficiaries."

One often cited example of dangerous geographic concentration is that of the Alaska Public Employees' Retirement System and the Alaska Teachers' Retirement System, which had invested 35 percent of their assets in in-state mortgages by 1980. When the price of oil crashed and took Alaska's economy down with it, the effect was devastating. Nearly 40 percent of the funds' mortgage portfolio became nonperforming loans. Ironically, this particular geographical concentration of investments did not come about because of any targeted policy, but it does illustrate how a regional economic slowdown can hit a fund.

Dougherty has not completely given up on the possibility that public pension funds could be invested in targeted local development, "if it could be made to work intelligently." One idea that he floats is the establishment of a mutual fund comprised of the stock of small in-state companies "to attract pension funds." The firms would be drawn from the companies that the state business assistance center has approved for small business stock offerings. A major advantage of such a mutual fund, Dougherty explained, is that any risk would be spread among many companies. Would the State Investment Board consider such a proposal? "Absolutely," said Weig. "There may be opportunities, if we structure it to meet our obligations, [for] each organization to meet its objectives."

One problem, according to Mary Jean Ryan, the executive director of the Evergreen Community Development Association, a Seattle-based nonprofit organization licensed to issue Small Business Administration-backed debentures, is that "economic development people and pension people [in Washington State] have never really sat down and discussed possibilities for public pension fund investment."

Other states, either out of necessity or ambition, have gone much further than Washington. Connecticut recently decided to chip in $25 million from pension funds to purchase nearly 50 percent of the firearms division of Colt Industries, which had suffered from a long strike. In a press conference, Connecticut state treasurer Francisco Borges was quick to emphasize that this was "a carefully thought out, carefully structured, potentially very profitable business venture."

Alabama has also launched an ambitious in-state investment program. The Retirement Systems of Alabama, under the leadership of its chief executive officer, David Bronner, has provided $100 million toward the construction of an Alabama Pine Pulp plant, chemical plants in Mobile, an airplane plant in Foley and a Wal-Mart Distribution Center in Cullman. But the investments have not been without controversy. When Bronner also attempted to purchase a Montgomery television station for $70 million, Alabama Governor Guy Hunt filed suit, claiming that Bronner had overstepped his authority. The deal eventually fell through, and Bronner has come under fire from the business community, which doesn't like the idea of retirement systems funding projects that might compete with the private sector. "[Bronner] has invaded the private enterprise system's territory," Aaron Aropnov, a Montgomery real estate developer, told *Pensions & Investment Age*. Bronner, however, seems satisfied with the results of his purchases, pointing out that the rates of return for both retirement systems have increased by about 50 percent.

The jury is still out on the ambitious use of public pension funds: the investment in Colt, for example, could generate a healthy return or it could backfire. Clearly, the marketplace is not working completely efficiently. Not all of the firms that deserve working capital are getting it. Simultaneously, a lot of money has been spent chasing such investments as leveraged buyouts, which often end up destroying instead of creating jobs, without any return on investment improvement to show for it.

THE PENSION MANAGER'S INABILITY OR UNWILLINGNESS TO PUT ENOUGH MONEY TOWARD INFRASTRUCTURE AND DEVELOPMENT GOALS MAY HURT THE OVERALL ECONOMY.

If pension fund managers are willing to put some of their money into high-risk, high-yield investments such as leveraged buyouts, should they do the same for similarly risky, but potentially rewarding, in-state investments? Targeting investments geographically can result in tangible benefits for state and local economies. In Michigan, a relatively small amount of public pension money has been used to create businesses and generate jobs. In these programs, the aims of economic developers, pension managers, and small business owners coincide; all have a common interest in promoting successful economic growth.

The Advantage for Beneficiaries

In the long term, the pension manager's inability or unwillingness to put enough money toward infrastructure and development goals may hurt the overall economy and with it, ultimately, the pension funds' ability to provide for their beneficiaries. As the report of the Governor's Task Force on Pension Fund Investment in New York noted last year: "A fund's ability to provide benefits is related to the financial health of the sponsor. In the case of a public pension fund, taxes are the main source of government contributions. If the taxbase should shrink or weaken, the result could either be increased taxes or cuts in state or local budgets, which might result in layoffs of public employees. Thus a growing and healthy tax base is of direct interest to beneficiaries and, in some cases, may be at least as important as immediate investment performance." New York's public pension funds found that out when they bought bonds to help bail New York City out of its financial crisis in the 1970s. While those bonds were undoubtedly seen as risky, the alternative for the pension fund beneficiaries was potentially disastrous.

Although there is general agreement that pension funds can play a beneficial role in aiding local economic growth, the question of whether they should be used to fund massive public works is problematic. There can be little argument that certain projects, such as low-income housing or road repair, are falling by the wayside— and not because they're worthless social or economic investments. The major stumbling block is that this infrastructure should be built or repaired for the public good, and the money for these projects should be borrowed at the lowest possible rate. Where's the advantage for pension fund beneficiaries in such an arrangement?

If corporate and government debt loads continue to grow, the pool of money available to invest in future economic growth will dwindle, and as a result the pressure to use public pension funds may very well increase. But the real debate is not so much whether to use pension funds, but how we can provide enough money to ensure our long-range economic health. That is the problem that needs to be addressed.

Jonathan King is a Seattle-based writer.

Gallery

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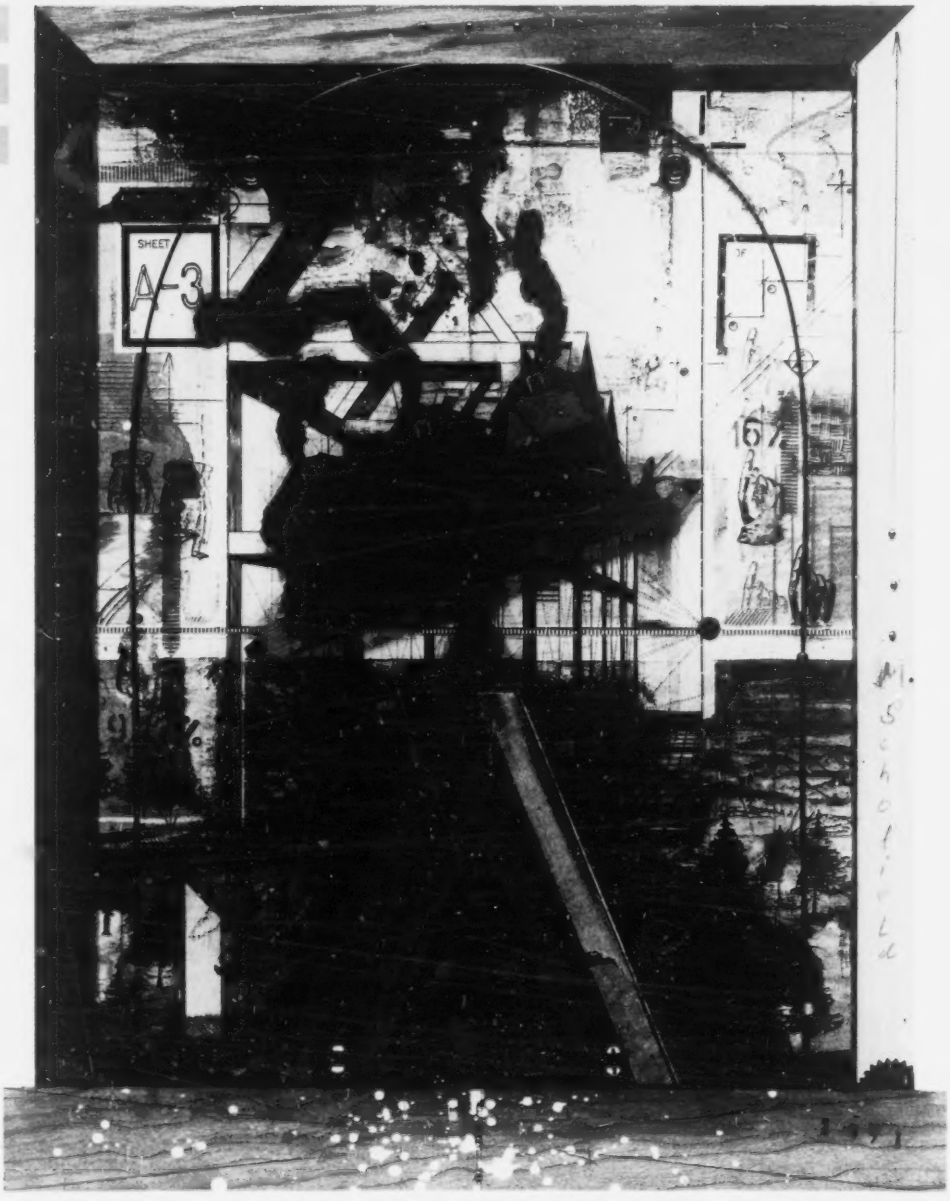

Learning By Doing: Computer Simulations as a Business Tool

REGIONWATCH
- Does Infrastructure Promote Economic Development?
- The Ups and Downs of the Homebuilding Industry
- Employment, Hours, and Earnings Indicators

Is There a Fiscal Rationale for Densely Populated Cities?

Strategies for Marketing American Products in Japan

Commentary

How Can You Judge the Safety and Soundness of a Bank?

Who could have imagined last summer how different our world would be today? War in the Middle East, a national recession, a huge drop in consumer confidence, a downturn in real estate, and problems stemming from risky financial undertakings have raised serious questions among consumers and business people. Those worries include doubts about the safety and soundness of banks.

Perhaps the number one issue in today's banking industry is *overcapacity.* In all of Canada, there are 65 commercial banks; in Japan, fewer than 150; in Germany, 900; and in the United Kingdom, 550. If fewer than 3,000 commercial banks and savings and mutual banks manage to serve the entire European community's 320 million consumers, do 260 million American consumers really need 12,600 commercial banks, 3,000 savings and loans, and 16,000 credit unions?

Overcapacity explains why many banks are having trouble and why others are being consolidated through acquisition. There will be—and there needs to be—a continued shake-out and more consolidation. In those parts of the country where the regional economy is weak, there will be bank failures, and most of these failures will result from poor management in a tough, competitive environment. Although banks in the Northwest are strong and the economy is healthy, overcapacity exists here as well, and the number of financial institutions will diminish.

Another national issue that affects banking customers in the Northwest is how the Federal Deposit Insurance Corporation's fund can be strengthened. Some industry experts are projecting recapitalization needs ranging from $30 billion to $50 billion. Given that the combined earnings of all insured banks totaled only $15.7 billion in 1989, those needs cannot be met by simply raising the insurance premium charged to banks.

The reform of FDIC insurance is a hot issue, and you will see a lot of debate as we decide how we will protect the depositor in the future. In the end, consumers will get what they want, deposits will still be insured—although perhaps not at current levels and with a limit per individual depositor.

Many are asking the question: how can you judge the safety and soundness of a bank? Begin by examining the bank's profitability, then review its reputation in the community, and research how the bank is rated by the leading national debt-rating services, such as Moody's and Standard and Poor's. For a more detailed analysis, compare the bank's equity to its total assets. The consensus view in banking is that an equity-to-assets ratio that runs above 5 percent is good. A ratio above 6 percent is even better.

Furthermore, since a key part of the banking business is making loans, examine the bank's level of problem loans. Look at the sum total of loans that are 90 or more days past due, "nonaccrual" loans that are not earning interest, and "restructured" loans, in which the terms have been altered to reflect the troubled borrower's financial plight. If a bank's loan-loss reserves exceed its total problem loans, the bank is most likely in good shape.

Finally, consider what you know about the bank's management. The quality of management may determine whether a bank prospers—it takes a lot of good people working together to make a bank a success. Have you met the bank's top managers or heard them give a speech? Does the local manager have the authority you would expect?

These tests can provide you with information specific to a given bank, but remember to put that information into a broader perspective. When judging banks, consider the regional distinction between those in the Northeast and those in the Northwest. Although the banks in New England and New York are having problems, banks here are doing well. Virtually all the major banking institutions in the Northwest reported good results in 1990 and are expecting a relatively good year in 1991. Seafirst Bank's fourth quarter, for example, was up 64 percent over the fourth quarter of 1989, and we are adding 4,400 net new consumer checking accounts a month. We wouldn't see this kind of growth if the Northwest were experiencing a regional recession.

If we look beyond banking, we can see too that Boeing is healthy and its prospects look good for the rest of the decade. The Northwest's midsized companies —the lifeblood of our economy—have reduced their inventories and are well positioned for the coming months. On balance, the manufacturing and high-tech sectors make up for weaknesses in forest products and agriculture. Moreover, Washington is ranked as the number two state in the country in exports per capita. Given these signs, the prospects for the future of banking and the economic health of the Northwest look good.

Luke Helms
Chairman and Chief Executive Officer
Seafirst Bank

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Welcome to Microworlds: Using Computer Simulations for Executive Training 2
By Bruce Barcott

REGIONWATCH

- Economic Developments in the Pacific Northwest 7
- "Fragile Foundations": Public Infrastructure and Economic Development 9
- Employment, Hours, and Earnings Indicators 12
- Homebuilding in a Boom and Post-Boom Economy 16

Will Population Growth Affect the Cost of Public Services? 20
By Catherine McDole Rao and David C. Clark

Marketing to Japan: Can an Export Firm Go it Alone? 23
By Edward Brooks

Cover illustration by Mark Schofield

Welcome Microworlds

Using Computer Simulations for Executive Training

by Bruce Barcott

Americans are gluttons for business education and training. Universities continue to mint MBAs at a pace of 70,000 a year, and corporations spend more than $30 billion annually on formal training and education. We use everything from cheaply produced videos to full-scale in-house universities, such as McDonald's Hamburger University, to impart information and, one hopes, a bit of wisdom to our work force. Executives and top managers receive about seven days of education per year, and a recent report by Executive Development Associates, a Westport, Connecticut consulting firm, predicted even more by mid-decade: nine days for executives and 10 for top managers by 1995. But those executives, in reality, are educated primarily during the 99 percent of the time they spend outside the classroom, in on-the-job experiences. Moving top managers from one division to another within the company, exposing them to different facets of the business and different people and challenges is often a corporate development specialist's toughest and most important task.

To concentrate that team experience, some companies—and an increasing number of business schools—are using computer simulations, or microworlds, to educate high-level managers. A simulation is a business game in which a computer is used to create a fictional industry; a number of companies, usually made up of five or six players on each team, compete against each other for sales, market share, and profits. Simulations allow managers to learn by doing, make them consider the various forces at work within and outside the company, let them take real-world risks without paying real-world penalties, and introduce them to new ways of thinking. Business professor Tom Pray, who designs simulations at the Rochester Institute of Technology, predicts that the use of simulations "is going to absolutely explode in the next few years."

Business simulations incorporate two of an instructor's best teaching methods: putting knowledge into practice and making it fun. Lessons are geared toward the next play. If the teams are asked to plan a stock offering, the instructor may lecture on stock and bond trading, the use of leverage, paying dividends, spot and futures markets, or commodities exchanges. Although competition is keen (no one wants to be shown up by one's peers), the simulation always remains a game. As the results of the final quarter's play are released, members of the top teams crowd around the final balance sheet and enthusiastically reiterate their finest moves; the bottom teams let loose some good-natured grumbling and the occasional "How did that happen?"

The Simulations Market

Thomas Pray is a professor of business administration at the Rochester Institute of Technology's College of Business and the president of the Association for Business Simulation and Experiential Learning, a 300-member organization of academics and corporate educators. Pray runs the three-week business simulation portion of RIT's 17-week Executive Program and consults on the side. He has created simulations for corporations such as Eastman-Kodak, Xerox, Bausch & Lomb, and Cigna Insurance. Companies often special-order programs from him, requesting simulations, for example, that focus on opening up international markets or instituting a total quality program. One company asked him for a simulation focusing on new technologies, to explore ways of successfully bringing new products to the market.

Simulations allow managers to learn by doing, letting them take real-world risks without paying real-world penalties.

A few small consulting firms offer specialized products for prices ranging from $150 to $15,000 or more. Simulations on the lower end of the price scale don't come with an instructor. "You've got to have someone dynamic up there who knows the simulation up and down," Pray says. "If you're dealing with whiz kids from Eastman-Kodak research and development, they'll fire questions at you. If you don't know how the game handles those functions, they lose confidence in it."

Although schools such as Rochester, Wharton, the Harvard Business School, MIT's Sloan School of Management, and the University of Washington School of Business use simulations in their undergraduate, MBA, and executive training programs, the technique isn't for every company. Although Pray and the UW's Al Schrieber, creator of the TOPEXEC simulation, have used their products with small companies (100 employees or less), large corporations seem to get the best training use out of them. These firms can better afford to lose some of their midlevel and top managers for the three-day to three-week stretches that a simulation often requires. Some companies consider conducting simulations at the home office, using the company's computers, but Pray doesn't recommend it. "You'll save a few pennies," he said, "but the distractions will kill you."

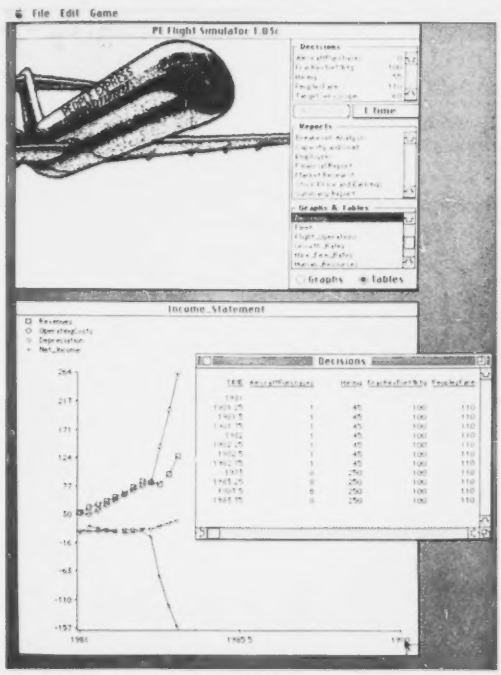
PHOTOS BY RICHARD G. SHAW

Boeing managers enrolled in the company's Aerospace Industry Management Seminar watch as Al Schrieber, TOPEXEC's creator, describes the likely ramifications of their strategic decisions.

Computer simulations that are available on floppy disk, which an employee can play on his or her office computer, are generally geared toward more specific training needs. Wisdom Simulators, a Cambridge, Massachusetts company, distributes a number of programs designed to train managers, corporate interviewers, bank tellers, and travel agents. The software simulates critical incidents, angry customers, problem employees, and gives managers a chance to experience those situations without risking their jobs or a lawsuit.

A Taste of Executive Training

When computer simulations are used strictly as a training tool, they are most often used to educate managers who are a few tiers from the executive officer level. The CEO and his officers are already familiar with the problems simulated by TOPEXEC, for example—they face them in the real world every day. The preferred training for promising executives continues to be executive seminars at Harvard, Stanford, MIT, and the like, where executives are exposed to simulations on a more general level. Company-sponsored scholarships to these programs are extremely competitive. Pacific Northwest companies like Boeing, Weyerhaeuser, and John Fluke Manufacturing occasionally send two or three senior managers to executive seminars, where the tuition alone can run in the tens of thousands of dollars.



With the People Express simulation, managers can track the effects of aircraft purchases, for example, and determine their influence on an income statement.

Robert Edgers, the corporate director of management development at Boeing, says that the full-year executive program at Stanford or Wharton is "an accelerator. Managers get more global exposure, the newest information and techniques. It really broadens their scope." But a year away from the home office can have its drawbacks. "We've found that sometimes if you send someone to MIT for a year they're filled with new concepts, but they come back to an organization that doesn't speak the same language," says Clyde Dildine, a management education consultant with Weyerhaeuser. "The corporation tends to pound that person back into its own mold." Weyerhaueser found that creating its own managerial training course was a more effective way of educating its leaders (see sidebar).

Division managers rarely need a full year at Wharton, but often can improve their performance if they're given a taste of the executive program, that broadening of scope. These managers are rarely expected to consider problems outside their sphere of control. Simulations allow them to pull back from their particular tree and look at the entire forest, to understand how decisions in one division may directly influence another—and also how outside economic factors affect the business. Often these are managers who don't understand the range of factors that a top executive must consider; by letting them run the company, the simulation "allows them to appreciate why less-than-ideal compromises are involved," says Al Schrieber.

Teaming up managers from different backgrounds results in a cross-fertilization of ideas and builds ties of understanding.

Schrieber, a business professor emeritus at the UW, developed his simulation in 1956 after reading a newspaper article describing a similar program that had been developed by IBM. When IBM refused to send Schrieber a copy (the company had invested $50,000 in its development and was hesitant to lend it out), he developed his own program with the help of a computer specialist and one of the University's old mainframe computers.

By changing any of 300 variables within his program, Schrieber can simulate virtually any industry. The Boeing Company, the largest user of business simulations in the Northwest, includes TOPEXEC in its three-week AIMS (Aerospace Industry Management Seminar) Program, taught at the University of Washington. The 36 Boeing managers from around the United States and Canada who participate in the seminar split up into teams of six, representing the executive committee of a company. They are responsible for running businesses that each produce more than 400 different kinds of electronic parts. The teams plot strategy and enter policy decisions into a computer; the next day, the computer reports the results of each company's "play" to the team. During the course of the three-week period, eight plays are made, each representing a three-month period of simulated time. With each play, Schrieber increases the complexity of the decisions, introducing intraindustry trading, stocks and bonds, competitive bidding, and overtime concerns. His program has the capacity to simulate business catastrophes, labor-management disputes, even trading on the futures market.

During one recent TOPEXEC session, the competition between teams became more intense as the game progressed. One Boeing

manager later said, "We started living and dying TOPEXEC." When one team cut a deal with Schrieber for a volume discount on their raw material, the other groups protested. Another team found itself in a competitive bidding war for a government contract, and ended up undercutting the competition to its own detriment: "We won the bid, but lost our shirts on the product," one executive moaned. Time pressures increased as the game progressed; managers were forced to shoot from the hip and hope for the best.

Intercompany networking is an important side effect of most simulations. Teaming up managers from different backgrounds results in a cross-fertilization of ideas and builds ties of understanding among a company's divisions. Eastman-Kodak often pairs groups of sales and service managers together during simulations. "It's a natural way to link people who have to work together in the field, but who often don't appreciate each others' problems," says Marilyn Sadler-Bay, a manager of human resources at Eastman-Kodak. At the Boeing TOPEXEC seminar, tool fabrication managers befriend internal audit managers and military manufacturing supervisors, and each gains some insight into the others' problems (and usually finds that they aren't so dissimilar). Those ties later serve them well; one senior Boeing manager who played TOPEXEC 20 years ago still keeps in touch with the five other members of his team.

Can You Simulate Challenge?

For all their potential, there are a few things that computer simulations can't do. One of the greatest features of the simulation is its ability to condense real-life experience into an intense workshop setting. Managers are allowed to experiment with new concepts and put risky strategies into action, without bankrupting the company. In fact, if the best learning results from experiencing failure (and learning from those mistakes), those who ultimately derive the most benefit from the process may be the members of the losing team—as with our manager who won the competitive bidding war and lost his shirt. Other areas get shortchanged at times, however. If a particular game simulates only a two-year time period, for instance, long-range research and development is a moot point.

There are other types of managerial experience that simulations rarely touch on. Morgan W. McCall, Jr., a professor of management and organization at USC's business school and a behaviorial scientist at the Center for Creative Leadership, reported in a 1988 article in *Human Resource Planning* that some of the most significant developmental experiences occur in situations that may not be easily reproduced. Future executives learn, not surprisingly, from challenging jobs. That challenge is made up of such elements as working with an array of superiors and developing the ability to deal effectively with people in authority, overcoming incompetence and resistance from subordinates, and learning to manage former peers or more experienced employees. Challenge is also overcoming a significant disadvantage, such as a manager with a financial background working on a legal project without knowing legalese, or taking a failing division and turning it into a thriving enterprise. Working as part of a team and knowing how various decisions will affect the company as a whole are only part of the stuff of which a top executive is made.

Accepting Uncertainty

If computer simulations do indeed "explode" as professor Pray anticipates, it may result from the game's strategic utility for top executives, rather than its effectiveness as a training tool for midlevel managers. During the late 1960s and early 1970s, Royal Dutch/Shell developed a "scenario planning" technique for plotting future strategy that prepared the company for the 1973 oil crisis; its competitors were caught by surprise. The technique was also a crucial factor in giving Royal Dutch/Shell executives insight into the oil market eight years later, when other companies were stockpiling their

Leadership Institute: How Weyerhaeuser Uses Simulations

When Weyerhaeuser Forest Products, one of Weyerhaeuser's three divisions, found itself in a depressed timber market in the early 1980s, its top executive staff decided that the company required a radical change to stay competitive. Weyerhaeuser had been a resource-driven company: its managers concentrated on trees, not on customers. Charles Bingham, the firm's executive vice president in charge of the forest products unit, realized that his managers needed to be reeducated, to think in terms of the customer first, then work back to the resource. "We needed a program to change our culture," says Clyde Dildine, an education consultant for Weyerhaeuser.

With the help of Education Development Associates, the firm established the Leadership Institute, a four-week training course that has educated more than 1,500 managers since its inception in 1986. Managers attend four intensive one-week sessions, with a four-month break between sessions to allow them to test the seminar's teachings in the work place. The skills cultivated in the course include building a unified company vision, developing a broad business perspective, and constructing a sense of teamwork across a company's divisional boundaries. The program employs a variety of training techniques, from outward bound-type experiences to the more typical classroom lectures by university professors and expert consultants.

Computer simulations are used during the second and fourth sessions. The simulation in the second session gives managers a chance to run a market-driven, consumer-oriented company. In the final session, managers test various business strategies in an all-out game similar to TOPEXEC, except that the Weyerhaeuser version condenses a simulated two-year business period into two rather intense days, instead of several weeks.

resources following the outbreak of the Iran-Iraq war. Shell sold off its oil reserves before a glut hit the market and prices collapsed. One advocate of computer simulations uses the history of People Express Airline, the no-frills carrier that prospered in the early 1980s and self-destructed in 1986, to illustrate how long-term strategic planning using simulations could have alerted the airline's executives to the growth-fueled problems that eventually bankrupted the company.

The basic theory behind scenario planning holds that if you understand the basic forces that drive a certain market, you should be able to throw variables into the industry—pricing decisions, higher or lower production levels—and forecast possible future scenarios. The point is not to create the most precise crystal ball, but to consider the many different situations that the future may bring and discuss ways the company might best prepare for each.

"The better approach," writes Pierre Wack, the former head of the business environmental division of Royal Dutch/Shell, "is to accept uncertainty, try to understand it, and make it part of our reasoning. Uncertainty today is not just an occasional, temporary deviation from a reasonable predictability; it is a basic structural feature of the business environment."

Questioning the Basic Assumptions

Peter Senge is the leading exponent of computer simulations at MIT's Sloan School of Business and the author of *The Fifth Discipline: The Art and Practice of the Learning Organization*. He sees computer simulations as a crucial tool in developing what he calls "the learning organization," a company that taps the creative energies of all employees and does not rely on one "grand strategist at the top. . . a Ford or a Sloan or a Watson." Senge believes in a sort of business Darwinism: companies that fail to learn—at all levels—and adapt to changing business conditions will die. "The ability to learn faster than your competitors," he says, quoting Arie De Geus, the head of planning at Royal Dutch/Shell, "may be the only sustainable competitive advantage."

The computer simulation's potential within an organization depends on how open that organization is to change.

The key to this companywide learning is the adoption of systems thinking, and Senge wants to "destroy the illusion that the world is created of separate, unrelated forces." Microworlds, he says, referring to simulations, make the forces at work in any given industry visible to the naked eye of the executive. The relationships between different forces are often difficult to detect because cause and effect may be years apart. By condensing time, simulations bring the ties between these forces to the fore and allow executives to examine patterns and chart their company's future course. Systems thinking, he writes, could be "a first step in reversing the chronic tendency of U.S. companies to focus on the short term and neglect the long term."

Senge uses simulations to alter a company's way of thinking in other ways. A computer simulation may prompt top managers to confront the assumptions that underlie decision-making at their company, to not answer "We've always done it that way," but to ask "*Why* have we always done it that way?" For example, consider the case of the computer company that has set a goal of reaching $2 billion in sales within five years. Although the company had been growing at an annual rate of 20 percent for more than a decade, the sales manager knows that the $2 billion figure is impossible to reach. But he can't say so during a managers' meeting, for fear of being labeled a naysayer or being seen as someone who isn't a team player. When the company's executives divide into teams to play out their goal in a microworld, however, the sales manager has the opportunity to say, "Wait a minute—20 percent more staff doesn't mean 20 percent more sales." By working through the simulation, the company will be able to realize that its original goal is unrealistic and adjust it accordingly.

Enlightened Direction

Computer simulations are not wonder-machines that impart decades of managerial wisdom in three-week sessions. They can be powerful learning tools when used as part of a larger educational program, but they are just that—tools. They will not turn raw recruits into seasoned managers or average executives into good ones. The computer simulation's potential within an organization depends on how open that organization is to change. Clyde Dildine's comment about corporations pounding newly trained executives back into the company mold is a fair criticism. Will a simulation that encourages managers to take risks and learn from the consequences be of significant value to a company that doesn't allow its managers the freedom to take similar, albeit more reasonable, risks in the real world?

The same question should be directed at the cross-departmental aspects of simulations. Challenging a marketing manager to plot production strategy and exposing her to the world of high finance during a simulation session will give her insight into the problems those departments face and the role they play in the company's success or failure, but the learning process shouldn't stop there. Executive development—a 10-, 20-, or 30-year process—requires travel within the organization, giving each candidate a variety of assignments in different departments and transferring them to nontraditional, sometimes risky, posts where they will face real-time pressures.

Peter Senge may be right: computer simulations can change the way executives—and, ultimately, the corporation—think. But simulations alone will not move that mountain. In Weyerhaeuser's case, the company used simulations to get its managers to rearrange their concept of the organization, but that change in thinking came about only when CEO Charles Bingham realized that his company's future was at stake. Computer simulations help in the reeducation of the corporation, but enlightened direction still comes from the top.

Bruce Barcott is a staff writer for the Seattle Weekly.

REGION WATCH

Economic Developments in the Pacific Northwest

A war abroad and a recession at home: this is a rare combination for the U.S. economy. The depth and duration of the recession is being cast in the context of war. A short, decisive conflict (a six-week operation) would lead to a shorter, more shallow recession with recovery occurring in the second half of this year. A protracted war (of up to six months) will reduce GNP growth (in real terms) by 1.1 percent in 1991 and 0.5 percent in 1992, according to economists at the Bank of America and Data Resources. A serious recession would be the result of a sharp spike in oil prices, a worsening credit crisis, weak demand and sagging corporate profits, an upswing in unemployment, and another drop in consumer confidence.

Recession watch

Consumers, whose spending accounts for two-thirds of GNP, hold the key to economic recovery. But real disposable income growth has fallen, spending for goods and services has slumped, debt is piling up, and confidence is at a low ebb. Consumers may get some help in coming months from lower oil prices, but new taxes will erode their take-home pay.

The likeliest outlook for the nation, according to our forecast panel, is a tolerable mixture of slower growth and lower inflation, with a brighter year to follow in 1992 (Table 1). For the region, panel members remain confident that the Northwest will avoid a recession and prosper relative to the rest of the nation. The three states are projected to gain a modest 58,800 nonagricultural jobs in 1991 and will benefit from continued export growth.

Table 1: Panel Forecasts
median annual percent changes

	Real Gross National Product	Implicit Price Deflator
1989 actual	2.5	4.1
1990 prelim	0.9	4.1
1991	0.5	4.1
1992	2.6	3.6

	Nominal Personal Income	Non-agricultural Employment	Manufacturing Employment
WASHINGTON			
1989 actual	10.4	5.3	5.7
1990	8.4	4.2	0.4
1991	5.9	1.4	-1.9
1992	6.8	2.6	0.3
OREGON			
1989 actual	9.5	4.4	1.4
1990	7.7	3.2	0.7
1991	6.0	1.4	-1.5
1992	7.5	2.5	0.5
IDAHO			
1989 actual	9.6	5.4	4.3
1990	8.8	5.1	4.1
1991	5.5	3.0	1.9
1992	6.8	3.8	3.2

Signs of an economic slowdown within the Puget Sound are beginning to accumulate. After the torrid pace of the last three years, area businesses expect a moderate rate of sales growth, a modest increase in after-tax profit growth, and few additional hires in 1991.

Business Conditions Survey

These are the results of the *Pacific Northwest Executive*'s latest survey of Puget Sound business executives and owners. The survey—conducted in collaboration with the Greater Seattle Chamber of Commerce and the Seattle Economists Club—is designed to determine a firm's business performance during 1990 and its expectations for 1991. The sample frame consists of all private sector establishments that employ 250 or more workers in King, Snohomish, and Pierce counties, plus a random selection of smaller firms.

The questionnaire was sent to 596 businesses in January. Usable responses were received from 243 (69 large and 174 small) firms, for an overall response rate of 41 percent. Collectively, these businesses employ 105,303, about 10 percent of the private nonfarm work force in the three counties.

According to survey returns, which are weighted by employment, 74 percent of Puget Sound companies recorded sales gains of 2.5 percent to more than 10 percent during 1990 (Table 2). Though growth has certainly not stalled, this level does represent a drop when compared with 1989's sizzling 94 percent sales growth. Wages, nonwage costs, and prices all continued to increase sharply last year, resulting in relatively flat after-tax profits. Employment gains were modest in 1990.

Although businesses across the region's industrial spectrum prospered, firms in the service sectors registered stronger growth in after-tax profits, capital expenditures, and employment additions. These results contrast with those of our January 1990 survey, which emphasized the 1989 performance of firms in the goods-producing sectors.

According to our survey sample, the 1991 outlook is for continued but moderate growth. Despite the national recession, regional firms do not expect a downturn; most business owners anticipate continued growth in sales and capital expenditures, but with no significant increase in employees. After-tax profits for larger firms are likely to top those reported in 1990. Smaller firms, however, are more cautious in their outlook, expecting costs to rise faster than prices charged and a drop in after-tax profits. Compared with larger firms, these small businesses won't be making major capital expenditures or hiring additional personnel in 1991.

We also asked survey participants whether the slowdown in business performance had sparked any increased interest in the foreign exportation of their goods or services. With the exception of some larger goods-producing companies, most area businesses, we found, will make no discernable shift between domestic and foreign markets this year. Roughly one-fifth of the firms in our survey export, and their principle markets are Canada (37 percent), the Pacific Rim (35 percent), and Europe (24 percent). For smaller firms that export, Canada is clearly the preferred destination. The vast majority (89 percent) of the firms

Table 2: Survey Results, January 1991
weighted percent of 243 respondents

	MUCH LOWER <-10%	LOWER -10% TO -2.5%	NO CHANGE -2.5% TO 2.5%	HIGHER 2.5% TO 10%	MUCH HIGHER >10%
SALES					
Last 12 months	2	16	8	40	34
Next 12 months	2	6	23	30	39
PRICES					
Last 12 months	2	7	40	33	18
Next 12 months	1	5	37	56	1
COSTS					
Last 12 months	0	1	18	70	11
Next 12 months	0	2	16	78	4
NET AFTER-TAX PROFIT					
Last 12 months	15	16	20	14	35
Next 12 months	4	11	29	23	33
WAGES					
Last 12 months	0	0	11	86	3
Next 12 months	0	0	5	93	2
INVENTORIES					
Last 12 months	1	6	28	43	22
Next 12 months	1	7	33	41	18
CAPITAL EXPENDITURES					
Last 12 months	1	10	30	26	33
Next 12 months	8	5	20	40	27
EMPLOYMENT					
Last 12 months	2	4	30	35	29
Next 12 months	0	21	38	19	22

that do not export declared that exportation was not applicable to their business.

The economic vicissitudes that come from dependence on the federal government's largess are exemplified by the Tri-Cities of Richland, Kennewick, and Pasco. In 1943 this agricultural region was transformed when it became home to the federally operated Hanford Nuclear Reservation. Since then, more than half of the region's economy has been directly tied to Hanford's largely defense-related research and development operations.

Regional focus: the Tri-Cities

During the early 1980s, when the Washington Public Power Supply System (WPPSS) had three nuclear power plants under construction, the Tri-Cities was one of the fastest growing metropolitan areas in the United States. This boom came to an abrupt halt in 1982 when WPPSS defaulted on its bond obligations, leaving the region's economy reeling and wiping out more than 16,000 jobs.

Meanwhile, the national defense buildup of the 1980s was fueling growth in Hanford's nuclear materials production. Between 1984 and 1987, 2,500 new jobs were added, and employment peaked at 14,500. But in 1988 the Department of Energy announced two major program changes: the termination of the Basalt Waste Isolation Project and the shutdown of the N-reactor and Purex reactors. Within a year, 2,300 jobs were eliminated, and a 1988 federal study predicted that by the mid-1990s the closure of the weapons production facilities would result in the loss of another 6,000 jobs. Given that the average annual Hanford paycheck was $41,000, each Hanford job supported 1.2 additional jobs within the regional economy. In combination, these potential losses threatened nearly a quarter of the region's work force.

The federal government, the state of Washington, and the Tri-Cities did not sit idly by, grim news in hand. The Department of Energy, Westinghouse Hanford, and Battelle Northwest increased their efforts to diversify Hanford—and commercialize the technological results—by taking on new research in areas as diverse as space power, environmental restoration, and molecular science. Encouraged by a groundswell of public support, Hanford's effort to combine new R&D with the clean up of existing nuclear and chemical wastes resulted in the 1989 Tri-Party Agreement, signed by the Washington State Department of Ecology, the U.S. Department of Energy, and the Environmental Protection Agency. The pact calls for the federal government to spend $57 billion in the next 30 years to handle the wastes created by more than 40 years of defense production. "We want to become the nation's leading research and development center for the environmental sciences," says James Cockran, the dean of Washington State University's branch campus at the Tri-Cities.

Washington responded to the announced N-reactor closure by appropriating more than $3.3 million for economic diversification, agribusiness development, employment and retraining, and social services in the Tri-Cities. The state's Department of Trade and Economic Development inventoried the region's assets and liabilities, its economic opportunities, and made a number of recommendations to retain and expand existing industries, attract basic employment, encourage new businesses, improve infrastructure, and build local capacity for economic diversification. Although the infusion of state monies had tangible effects, "the visibility of the state's commitment helped offset the attitude of despondency in the region," said Art Tackett, the manager of the Tri-Cities Diversification Program.

Not only did the Tri-Cities diversification effort raise awareness throughout the state, the thrust helped open the eyes of local residents to their endowment of natural, physical, and human capital assets. Sue Watkins, the manager of the Port of Kennewick, stated, "The single most important accomplishment was that people learned

(continued on page 19)

"Fragile Foundations": Public Infrastructure and Economic Development

Portions of the old Interstate 90 floating bridge across Lake Washington sink, disrupting the commuting patterns of hundreds of thousands of workers within the Seattle metropolitan area. A dike along the Skagit River in northwestern Washington bursts, inundating 8,000 acres of farmland and 450 homes. An antiquated water main breaks in Idanha, leaving the northcentral Oregon community without an adequate supply of water.

Such accidents and disasters happen almost daily, not only in the Northwest but throughout the United States. These mishaps are outward signs of a growing affliction: the decay of our regional and national infrastructure. But this progressive neglect affects more than the safety and convenience of the population; it reflects the economic health of the region and the nation.

Public infrastructure investments are made to achieve a variety of objectives. Infrastructure is built, for instance, to enhance the quality of life for a region's inhabitants. School buildings, recreational facilities, and transportation systems are constructed to supply the services that local residents demand. Infrastructure helps deliver the services, such as water and telecommunications, that business firms use in their local production activities. In providing these existing needs, a community may have the related aim of achieving greater economic development by attracting additional businesses, people, or economic activity. Or, finally, infrastructure investments, such as airport terminals or civic centers, may be made to enhance community pride. Elected officials view newly built infrastructure projects as evidence that their constituents are being served.

Infrastructure investments may be made to satisfy some or all of these goals, and each objective may be a legitimate reason for local projects. But can new infrastructure investment be an effective means to stimulate economic development activity? Frequently, officials claim that infrastructure investments are a beneficial economic development mechanism, and they use this justification to defend mammoth spending programs for new roads, the expansion of water and sewer systems, or other public improvements.

There is little doubt that roads, water and sewerage systems, electricity, telecommunications, railroads, ports, and airports generally *support* economic activity. However, the degree to which public infrastructure *stimulates* economic development in specific locations is less clear. In particular, we should ask ourselves if additional infrastructure investments can induce development at a greater level than we currently have. Moreover, are infrastructure investments the most cost-effective means for stimulating local economic development?

The Investment Slowdown

Public infrastructure is defined as the physical capital investments—the roads, water and sewerage systems, electric power plants, telecommunications facilities, railroads, and airports—traditionally provided by the public sector to enhance private sector production and consumption. In *Wealth of Nations*, Adam Smith argues that one of the basic responsibilities of the "sovereign or commonwealth" is to provide an adequate structure of public works to "facilitate the commerce of society." An extensive and well-maintained system of roads, bridges, and utility lines are necessary to meet the needs of a vital, growing economy. The duty of constructing such public works falls to the government, because the benefits of these physical improvements accrue not just to individual firms or consumers, but to the economy at large.

Overall investment in our nation's public infrastructure has slowed considerably during the last quarter century in relation to the demands of growth and environmental concerns. Capital outlays for infrastructure now represent only 1.6 percent of the gross national product, down from 2.2 percent in 1963. During the 1980s, annual capital expenditures for infrastructure in adjusted dollars stayed relatively flat—between $45 billion and $55 billion—well below the pace of national economic growth. Average annual growth rates in public capital, adjusted by depreciation and discard schedules, have declined from 2.3 percent during the 1970s to less than 1 percent in the 1980s. Concomitantly, annual real growth in GNP averaged 2.8 percent in the 1970s, then dipped slightly to 2.6 percent in the 1980s.

A declining infrastructure will inevitably endanger our investment and jeopardize the productivity of our economy and our quality of life.

The stock of public capital in the United States is worth more than $2 trillion, so reduced outlays over the short term do not necessarily mean that individual facilities are in imminent danger of collapse or that particular regions are in immediate peril. However, a declining infrastructure will inevitably endanger our investment and jeopardize the productivity of our economy and our quality of life. If we fail to reverse this decline, we will be exacting a high price from future generations, both in terms of the cost of deferred investment and re-

duced economic competitiveness.

While the exact magnitude of needed public infrastructure improvements may be open to debate, there is strong consensus about the inadequacy and the need for more investment. The National Council on Public Works Improvement, in its 1988 final report, *Fragile Foundations*, concluded that "the quality of America's infrastructure is barely adequate to fulfill current requirements and is insufficient to meet the demand of future economic growth and development." Other recent studies, including the Office of Technology Assessment's *Rebuilding the Foundations*, recommend enormous increases in infrastructure investment—additions that total up to 100 percent of the amount the nation currently invests each year.

Competing Demands

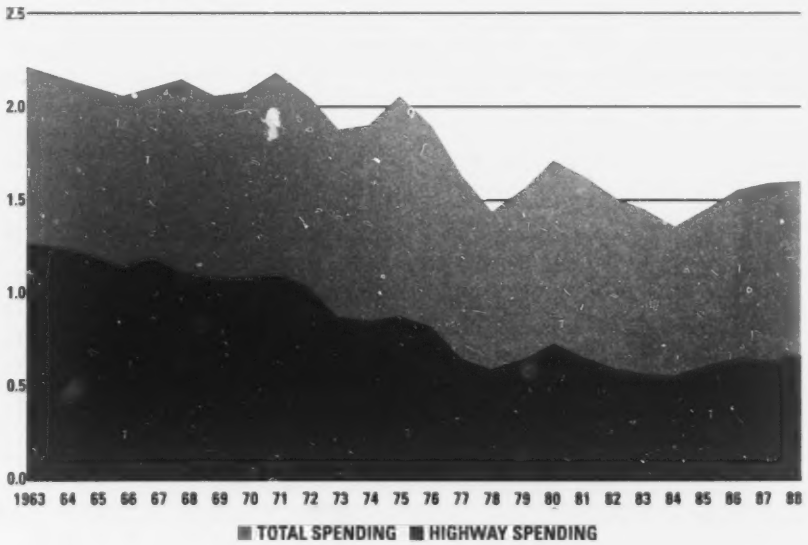
The decreased share of public spending that is allocated to infrastructure reflects a shift in national priorities: capital outlays for such projects have simply been crowded out by competing demands for the available public funds. In particular, governmental expenditures for social welfare programs are now significantly higher. Currently, state and local governments spend nearly 30 percent of their federal grant monies on health care—a phenomenal rise from 3 percent in 1960. Fifteen percent of current federal funds are earmarked for transportation, compared with 43 percent in 1960.

This relative decline can also be observed in the shifts that have taken place within public infrastructure spending. During the 1960s, expensive interstate highway projects, with the federal government as the major financier, dominated public infrastructure investment, but, during the 1970s, highway investment declined relative to wastewater treatment and mass transit programs. In the 1980s, the emphasis on highways continued to deteriorate, and the federal priority for wastewater treatment also began to wane.

The overall decline in spending has been concentrated in one of the most important infrastructure categories: highways, which represent the largest share of infrastructure spending (Figure 1). Mark Ford, the manager of strategic planning for the Oregon Department of Transportation, asserts that "highway improvements have the most direct impact on productivity enhancement." Yet while infrastructure categories such as health and hospitals, sewerage, and water have maintained their relative share of total infrastructure spending (1 percent of GNP), the share reserved for highways has dropped from 57 percent of the total in 1963 to 41 percent in 1989.

The decline in infrastructure spending has occurred in urban and rural areas alike. Many mature central cities are finding that they can no longer afford the cost of maintaining or improving their infrastructure stock because of the heavy demand for welfare programs and a shrinking tax base. Sprawling suburbs, which suffer from weak land-use planning and a lack of development controls, face a bleak future; they don't have the technology and management tools to increase road capacity without building more roads. And small cities and rural areas struggle to maintain many lightly traveled roads and numerous bridges at the service standards necessary for the heavy trucks that carry seasonal agriculture products only a few weeks out of each year.

Figure 1: Infrastructure Spending in the United States, 1963-1988
as percent of GNP



The Infrastructure Gap in the Northwest

Despite the federal government's funding presence, more than three-fourths of the total public funds now invested in the provision and maintenance of infrastructure is directly financed by state and local governments. During the past decade, federal spending reductions have forced a greater responsibility on state and local governments, which are now in the unenviable position of needing to provide services, yet being limited by how much money they can legally raise (and how they raise it) and by constituents who resent paying higher taxes. As if this fiscal upheaval were not enough, every jurisdiction is now responsible for upgrading its infrastructure, especially health-related facilities, to comply with more stringent federal standards.

The end result of this conundrum is that state and local governments have systematically underfunded the maintenance of existing capital stock, which has lead to the excessive deterioration of public infrastructure. The failure to reinvest or even maintain existing infrastructure is, in effect, a decision to live off an inherited bank account from previous generations. Unchecked, the ever-widening gap between the state and local governments' revenue capacities and

Table 1: Average Annual Rates of Growth in Public and Private Capital in the Northwest and the United States, 1970-80, 1980-88
in percent

	PUBLIC CAPITAL								PRIVATE CAPITAL	
	1970-80				1980-88				1970-80	1980-88
	Highways	Water & Sewer	Other	Total	Highways	Water & Sewer	Other	Total	Total	Total
Pacific Northwest	1.8	4.9	4.8	3.5	1.3	1.1	1.7	1.5	5.3	1.9
Washington	1.9	4.5	4.6	3.6	1.6	1.3	2.2	1.9	5.3	2.5
Oregon	1.4	5.8	5.2	3.4	0.8	0.6	0.6	0.6	5.6	1.5
Idaho	2.1	3.1	5.1	0.3	1.2	3.2	0.8	1.2	4.6	0.4
United States	1.5	3.4	2.8	2.3	0.6	1.9	0.9	0.9	3.6	2.5

SOURCE: Federal Reserve Bank of Boston, 1990.

the burgeoning needs of its capital plant will affect productivity and competitiveness in the future.

In the Northwest, infrastructure spending, as a percentage of gross state product, has declined steadily since the mid-1960s (Figure 2). Capital outlays for public works peaked in 1973 at more than 3 percent of the region's total gross state product, only to fall to less than 2 percent by the end of the 1980s. Although the average annual growth rate in public capital spending in the Northwest is above that of the nation, the total is still relatively modest (Table 1).

All three states acknowledge that their infrastructure spending levels are meager compared with both current and projected levels of demand. As Jerry Ellis, the director of economic development for the Washington Department of Transportation, observed, "the resources are simply no longer there to meet the need."

Although the decline in real public investment in infrastructure at the state level provides evidence of neglect, the cost estimates of rectifying those deficiencies provide a rather sober appraisal. To meet our infrastructure needs—from routine care, maintenance, and repair to replacements, improvements, and expansion—we would need to spend an additional $3 billion, a figure that is more than double the current capital outlay in the Pacific Northwest. Estimates from the draft report *Oregon Benchmarks* found that annual infrastructure spending would have to reach a level of 3 percent of gross state product—about $1.5 billion per year, or more than twice the state's current investment total—by 1995 to achieve Oregon's economic goals and maintain its quality of life. A 1990 Idaho highway assessment study estimated that the state will have to raise $7.3 billion in the next five years to fund urgently needed improvements.

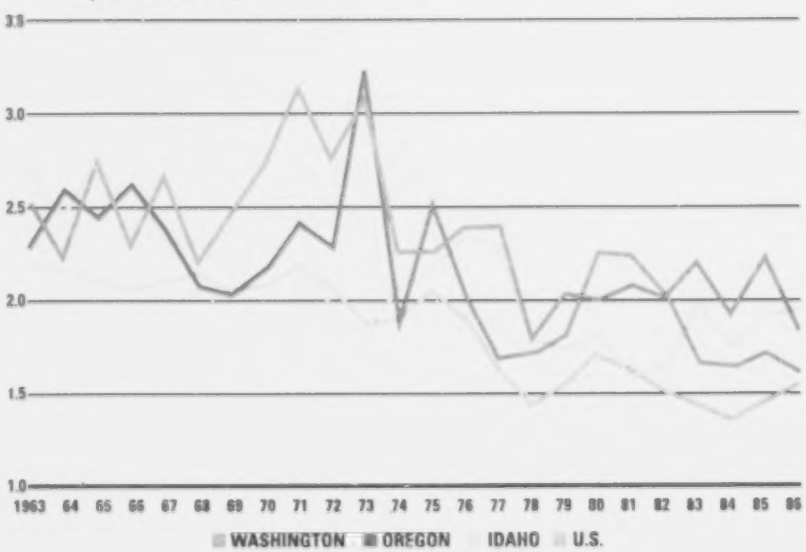
Certainly these estimates are highly subjective, and the size of the estimated shortfall in each case depends on the definition of "minimum adequate service standard." Nevertheless, the evidence remains clear: public infrastructure spending has not kept pace with the growth of state output, income, population, or private investment in the last two decades.

Even at the substate level, metropolitan city governments have fallen behind in their investments in infrastructure. Randall Eberts, an economist for the Federal Reserve Bank of Cleveland, contends that cities must scramble to simply maintain their existing capital stock. In the Seattle area, for instance, Eberts found that 62 cents out of every dollar spent on public infrastructure—roughly $35 per person per year—is used just to maintain the current stock of public capital (the remainder is for new investment). The situation is better in Portland, where 50 cents of every dollar of public investment goes toward keeping the stock of public capital at its present level. The national average is 56 cents.

Do shortfalls in public investment limit the ability of state and local governments to attract and maintain economic activity? Recent research by economists at several regional Federal Reserve Banks concludes that those states that invest more in infra-

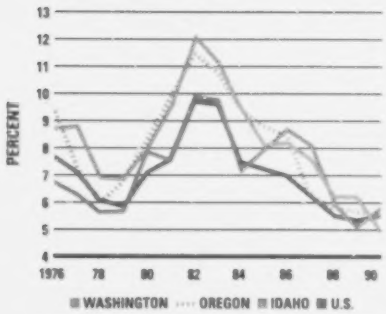
(continued on page 14)

Figure 2: Infrastructure Spending in the Northwest, 1963-1986
as percent of GSP (for U.S., GNP)

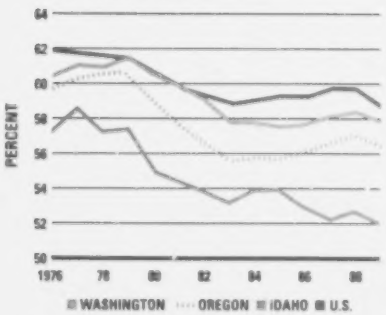


Pacific Northwest Employment, Hours, and Earnings Indicators[1]

UNEMPLOYMENT RATES[2,3,4]

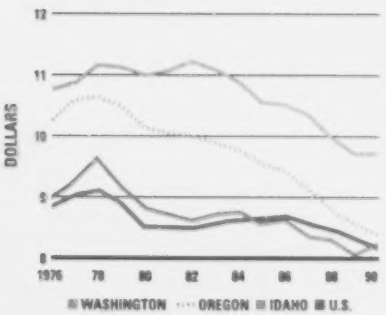


WAGES AND SALARIES AS A PERCENT OF PERSONAL INCOME[5]

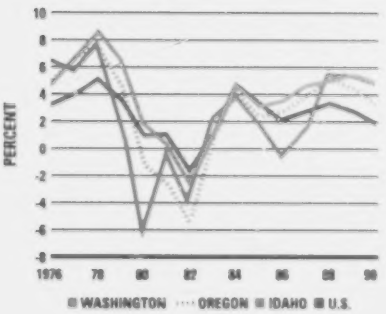


REAL HOURLY EARNINGS[6,7]

of manufacturing production workers in 1982 $



CHANGE IN PAYROLL EMPLOYMENT[2]



LABOR FORCE[2,3,4]

in thousands

YEAR	WA	OR	ID
1977	1,691	1,130	410
1978	1,808	1,196	414
1979	1,937	1,217	431
1980	1,985	1,295	429
1981	1,996	1,337	428
1982	2,024	1,324	444
1983	2,068	1,341	458
1984	2,051	1,335	462
1985	2,091	1,316	466
1986	2,199	1,360	473
1987	2,255	1,388	473
1988	2,315	1,426	479
1989	2,451	1,475	489
1990	2,503	1,492	496

EMPLOYMENT[2,3,4]

in thousands

WA	OR	ID
1,544	1,047	384
1,684	1,124	391
1,806	1,134	407
1,828	1,188	395
1,806	1,205	396
1,779	1,171	382
1,838	1,196	390
1,857	1,210	429
1,921	1,200	429
2,018	1,245	432
2,085	1,302	435
2,173	1,343	451
2,300	1,391	464
2,381	1,409	467

UNEMPLOYMENT[2,3,4]

in thousands

WA	OR	ID
148	83	26
124	72	21
131	83	22
156	107	27
190	132	27
245	153	37
231	145	32
194	125	27
170	116	28
180	115	41
171	86	38
143	83	28
151	84	25
122	82	29

AVERAGE WEEKLY EARNINGS[6]

manufacturing production workers in dollars

YEAR	WA	OR	ID	US
1977	267.74	257.46	228.73	228.90
1978	297.11	281.97	253.36	249.27
1979	323.85	304.92	265.04	269.34
1980	361.34	329.57	280.11	288.62
1981	405.07	355.13	311.09	318.00
1982	432.36	379.76	316.35	330.26
1983	444.24	397.17	335.85	354.08
1984	450.47	409.25	351.18	374.03
1985	453.57	406.35	355.70	386.37
1986	463.74	412.23	369.01	396.01
1987	479.28	413.95	370.54	406.31
1988	482.48	416.58	381.00	418.81
1989	483.04	425.91	396.00	430.09
1990	517.78	439.31	412.34	442.27

AVERAGE WEEKLY HOURS WORKED[6]

manufacturing production workers in hours

WA	OR	ID	US
39.2	38.6	39.3	40.3
39.3	39.0	38.8	40.4
38.6	38.5	38.3	40.2
38.4	38.1	37.1	39.7
38.8	37.5	37.8	39.8
38.5	37.9	36.7	38.9
38.9	38.9	37.4	40.1
38.8	39.2	37.6	40.7
39.0	38.7	37.8	40.5
39.4	39.0	38.2	40.7
39.9	39.2	38.2	41.0
40.1	39.3	38.1	41.1
39.4	39.4	38.9	41.0
40.2	39.4	38.9	40.8

NOMINAL EARNINGS PER HOUR[6]

manufacturing production workers in dollars

YEAR	WA	OR	ID	US
1977	6.83	6.67	5.82	5.68
1978	7.56	7.23	6.53	6.17
1979	8.39	7.92	6.92	6.70
1980	9.41	8.65	7.55	7.27
1981	10.44	9.47	8.23	7.99
1982	11.23	10.02	8.62	8.49
1983	11.42	10.21	8.98	8.83
1984	11.61	10.44	9.34	9.19
1985	11.63	10.50	9.41	9.54
1986	11.77	10.57	9.66	9.73
1987	12.01	10.56	9.70	9.91
1988	12.03	10.60	10.00	10.19
1989	12.26	10.81	10.18	10.49
1990	12.88	11.15	10.60	10.84

REAL EARNINGS PER HOUR[6,7]

manufacturing production workers in 1982 dollars

WA	OR	ID	US
10.88	10.62	9.27	9.04
11.17	10.68	9.65	9.11
11.12	10.50	9.18	8.88
11.01	10.12	8.83	8.50
11.07	10.04	8.73	8.47
11.23	10.02	8.62	8.49
11.09	9.91	8.72	8.57
10.89	9.79	8.76	8.62
10.54	9.52	8.53	8.64
10.50	9.43	8.62	8.68
10.34	9.10	8.35	8.54
9.97	8.78	8.29	8.44
9.69	8.54	8.05	8.29
9.68	8.38	8.22	8.14

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT, 1990[1,2]
by industry
in thousands

	WA	OR	ID
TOTAL NONAGRICULTURAL EMPLOYMENT	2,155.1	1,248.1	383.6
MANUFACTURING	369.9	218.8	62.7
DURABLE GOODS	261.6	158.1	34.0
Lumber and Wood Products	40.3	63.6	14.9
Furniture and Fixtures	4.1	3.1	NA
Stone, Clay, and Glass Products	7.7	4.3	1.1
Primary Metals	13.1	11.2	NA
Aluminum	8.9	NA	NA
Fabricated Metals	12.3	11.6	2.3
Machinery, Excluding Electrical	20.4	17.7	7.0
Electronic and Electrical Equipment	11.5	17.5	5.5
Transportation Equipment	131.3	13.1	1.5
Aerospace	116.5	NA	NA
Other Transportation Equipment	14.8	NA	NA
Instruments and Related Products	14.6	12.0	NA
Other Durable Goods	6.3	4.0	1.7
NONDURABLE GOODS	108.3	60.7	28.7
Food and Kindred Products	37.6	24.6	16.8
Textiles, Apparel, and Allied Products	8.0	4.5	NA
Paper and Allied Products	18.1	9.1	2.3
Printing and Publishing	22.5	14.1	4.7
Chemicals and Allied Products	13.2	2.3	3.5
Other Nondurable Goods	8.9	6.1	1.5
NONMANUFACTURING	1,785.3	1,029.3	320.9
MINING AND QUARRYING	3.8	1.6	3.9
CONSTRUCTION	119.0	52.5	18.5
TRANSPORTATION, COMMUNICATION, AND UTILITIES	113.7	63.8	19.7
TRADE	521.3	313.2	96.7
Wholesale Trade	129.1	79.5	23.2
Retail Trade	392.2	233.6	73.5
FINANCE, INSURANCE, AND REALTY	117.1	79.2	19.7
SERVICE AND MISCELLANEOUS	511.9	295.9	81.4
GOVERNMENT	398.5	223.2	81.0
Federal	73.8	34.1	13.3
State and Local	324.7	189.1	67.7
Education	169.0	104.5	29.2
Other	155.7	84.5	38.5

AVERAGE HOURLY EARNINGS, 1990[1,2]
by industry
in dollars

	WA	OR	ID
MANUFACTURING	12.88	11.15	10.60
DURABLE GOODS	NA	11.26	NA
Lumber and Wood Products	11.37	11.15	NA
Furniture and Fixtures	NA	9.83	NA
Primary Metals	13.24	12.59	NA
Fabricated Metals	12.23	10.52	NA
Machinery	10.81	11.17	NA
NONDURABLE GOODS	NA	10.84	NA
Food and Kindred Products	9.86	9.10	8.47
Textiles, Apparel, and Allied Products	NA	7.38	NA
Paper and Allied Products	NA	15.56	NA
Printing and Publishing	NA	12.52	NA
Chemicals and Allied Products	15.74	NA	NA
NONMANUFACTURING	NA	NA	NA
MINING AND QUARRYING	NA	NA	13.36
CONSTRUCTION	17.22	15.53	14.34
TRANSPORTATION, COMMUNICATION, AND UTILITIES	NA	14.14	NA
TRADE	9.15	9.41	8.00
Wholesale Trade	NA	11.34	8.97
Retail Trade	NA	8.26	7.47

NOTES
1. All 1990 figures are preliminary estimates.
2. Washington State Employment Security Department, State of Oregon Employment Division, and State of Idaho Department of Employment.
3. Unemployment rates cannot be calculated directly from the tables due to rounding.
4. Washington and Oregon data from 1978 to the present have been revised to incorporate a methodology change (July 1988 *Monthly Labor Review*).
5. Bureau of Economic Analysis, U.S. Department of Commerce.
6. Washington State Employment Security Department, State of Oregon Employment Division, State of Idaho Department of Employment, and U.S. Bureau of Labor Statistics, Employment, Hours, and Earnings.
7. Computed using the U.S. Consumer Price Index for urban wage earners and clerical workers (CPI-W) from the U.S. Bureau of Labor Statistics.
8. Excludes workers in labor disputes.
9. Washington data on fabricated metals, machinery, chemicals, and trade industries deviate slightly from BLS definitions and are not strictly comparable to data from other states.
10. Washington trade earnings now include restaurants, so 1990 data are not comparable to data from previous years.

Sources of Information on Employment and Earnings

There are several alternative employment and payroll data series available to people interested in labor force statistics. Due to methodological differences, care must be taken to use the data appropriately. Monthly data reflect pronounced seasonal changes and should be seasonally adjusted where interest centers on cyclical changes. The following summary outlines the distinctive characteristics of the major series and provides a guide to sources of more detailed information.

LABOR FORCE STATISTICS. Resident civilian labor force and employment statistics provide information about the size of the labor force, the number of persons employed, and the number of persons unemployed. By definition, the labor force is the sum of the employed and unemployed. The employed portion of the labor force, which includes the self-employed as well as part- or full-time employees, is estimated on a place of work basis using surveys and adjusted to a place of residence basis using Current Population Survey data. State estimates of unemployment are based on state unemployment insurance (UI) records with adjustments to include data from the Current Population Survey. These data do not provide industry detail, but are available for states, counties, and selected SMSAs on a monthly basis.

PAYROLL STATISTICS. Nonagricultural wage and salary employment, also called payroll employment, is estimated each month on the basis of information provided by a sample of cooperating establishments on data collection forms called "shuttle schedules." The data are collected each month by state employment agencies. These data are available for states, counties, and selected SMSAs on a monthly basis. The shuttle schedules also provide monthly data on average hours and earnings for production and related workers in selected industries. Although providing considerable detail by industry, this series does not cover farm workers, the self-employed, unpaid family workers, or military personnel.

UNEMPLOYMENT INSURANCE STATISTICS. The quarterly "covered employment" statistics include employment and payroll by industry for employees who are covered by state UI programs. Although providing more extensive industry detail than the monthly payroll statistics, the data do not include all workers covered by state insurance programs. Comparability over time and among states is not assured because of eligibility differences.

structure tend to have greater output, more private investment, and higher employment growth. But does extra infrastructure investment lead directly to increased economic activity or does increased economic activity encourage more investment?

Rx for Development: Build Infrastructure?

If infrastructure affects economic activity, why not build more infrastructure? To respond to that question, let's consider the two basic ways in which our stock of physical capital influences economic development. Infrastructure plays a role in the ability of firms to produce (the supply side of the economy) and it accommodates the service needs of businesses and people (the demand side). Infrastructure on the supply side enhances the productivity of both capital and labor inputs and allows firms to use the outputs of the infrastructure in their production process. A manufacturing firm, for example, uses electricity and water to make its products and roads to deliver its goods. Labor may be more productive because good roads and the lack of congestion eases the movement of workers who commute to their jobs. In other words, public capital amplifies the performance of private capital, thereby raising its rate of return and encouraging additional private sector investment.

The supply-side effects of infrastructure increase the level of regional income by allowing existing firms to expand their output for a reduced cost per unit of production. Potentially, supply-side linkages can increase the level of economic activity if start-up firms or relocating companies are attracted to that specific locale because of a unique feature in its existing infrastructure or the existence of excess capacity.

On the demand side of the economy, increased economic activity occurs as a result of the income and jobs that are created as money is spent to build infrastructure. Like other regions, the Northwest's economic development history is replete with examples of income-generating public works projects: the completion of the transcontinental railroad system, the construction of hydroelectric dams on the Snake and Columbia rivers and the region's interstate road system, and the launch of the ambitious Washington Public Power Supply System's nuclear power plant program. The economic benefits of these projects are largely short term in comparison to the projected life of the railroads, the dams, and the roadways, and are overshadowed by the benefits derived from these services.

An increase in economic activity also prompts people and businesses to demand more infrastructure. In some instances, public works that enhance people's daily lives, such as recreational facilities, may be added in response to the demands of firms that want to maintain a high quality of life for their employees. Relatedly, economic activity can be increased through the addition of infrastructure because the locale is then a better place to live. Another demand-side possibility occurs when new infrastructure is built with excess capacity, which can then be used to accommodate new firms in the community.

In the Seattle area, Eberts found that 62 cents out of every dollar spent on public infrastructure–roughly $35 per person per year–is used to maintain the current stock of public capital.

The distinct possibility exists, however, that public infrastructure improvements may lead to a redistribution of economic activity, that footloose firms merely relocate to other areas to take advantage of more readily available or less congested public infrastructure. When highway improvements, for instance, were made between several of Oregon's coastal communities and the Willamette Valley, the towns along the Pacific noted little increase in economic activity. Rural communities, especially within economically depressed regions, are often tempted to add infrastructure in the hope of attracting new firms. The accompanying risks, however, can be high, and the economic landscape is littered with improvements that have not attracted any consequential private investment.

Do Infrastructure Investments Promote Economic Development?

Most economists agree that public infrastructure supports economic activity. There is less agreement, however, about whether infrastructure can be used as a tool to stimulate economic development in specific locations. Where and when should infrastructure investments be made and in what form and quantity?

One method to determine whether infrastructure will contribute to economic development is to consider the economic characteristics of the region. Based on his 1965 work, Niles Hansen, a University of Texas economist, classified regions into three categories—congested, lagging, and intermediate—according to their current level of development and the presence within these regions of the ingredients for further development.

Congested regions. In a region's large urban areas, such as Seattle and Portland, the benefits of new infrastructure investments are outweighed by the costs associated with further increases in economic activity. Congested areas are highly developed, with most, if not all, of the important development ingredients in place. Although infrastructure investment may boost economic activity within these metropolises, the additional growth is likely to lead to the increased population and congestion that offsets those benefits. A forthcoming study, ***Delivering the Goods***, by the Office of Technology Assessment states that Seattle-area residents, who live in the nation's seventh most congested city, suffer an estimated loss of $6.8 billion per annum (or $430 per capita) due to clogged highways and expressways. Within this fast-growing metropolitan economy, most infrastruc-

ture investments are being used to merely accommodate the growth that is already occurring.

Lagging regions. Lagging regions are characterized as having a low standard of living due to their reliance on small-scale agriculture and stagnating or declining industries. New infrastructure would have little impact in such areas as the "other Northwest" because this region lacks many of the necessary development ingredients that attract new firms. As the Department of Transportation's Ellis asserts, "Infrastructure is only part of a region's enabling environment for increased economic activity." In economically lagging areas, she said, "transportation improvements, for example, would be hard to justify without new market opportunities." In fact, some lagging areas face disinvestment in infrastructure because their declining economies cannot maintain the existing stock.

Despite warnings to the contrary, communities in lagging areas often accept recommended infrastructure as an economic development tool. Timber-dependent towns, faced with a declining economic base, are convinced that increased physical stock investment will result in new economic activity. But infrastructure cannot overcome an unskilled labor force, a lack of financial capital, or the distance that must be covered to reach the closest markets. Policymakers in these lagging regions should focus their attention on improving the quality of existing infrastructure services, rather than promoting projects to build new facilities.

Intermediate regions. Intermediate regions, such as Spokane, the Tri-Cities, Eugene, Boise, and Salem, are those that have the basic features necessary for economic development, and infrastructure investments have the greatest likelihood of significantly improving their development prospects. Intermediate regions may lack sufficient infrastructure, but they have the potential to grow because the other ingredients that are conducive to development—a trained labor force, financial capital, and a proximity to raw materials and markets—are largely in place. Additional growth can raise the region's level of development activity without generating the costs of congestion that might offset the associated benefits.

Policy Options for Infrastructure Investment

Given that the realistic prospects of closing the infrastructure gap are scant, how can state and local governments increase the efficiency of their public infrastructure? Governments have a range of options: at one extreme, they can invest in infrastructure only when serious bottlenecks occur, or they can use infrastructure as a vehicle for regional economic development. The first strategy is passive—infrastructure follows private investment. The second option is an active one—infrastructure investments lead private investments. There is risk associated with the second strategy, for the response of the private sector to infrastructure improvement can be disappointing.

Recent research by Cleveland economists Randall Eberts and Michael Fogarty indicates that the causal relationship between public and private investment actually takes place in both directions. Although their research was limited to the nation's largest metropolitan cities (including Seattle and Portland), the results indicate that private investment is more likely to influence public expenditures in cities that have experienced tremendous growth since the 1950s. In maturing cities, public investment appears to be the initiating factor in the development process, and Eberts's and Fogarty's work suggests that the effect of public infrastructure on economic development depends on the type of investment and the region's economic conditions. For the Northwest, public capital outlays can best influence private investment decisions in those regions with significant growth potential.

One innovative Northwest program that responds to the infrastructure needs of the communities that have an opportunity for economic activity is Washington's Community Economic Revitalization Board (CERB). Established in 1982 by the Washington State legislature, CERB provides financial assistance to the towns and cities that can present convincing evidence that a specific private sector development, such as a business start-up, will occur only with needed infrastructure improvements. Since its inception, CERB has funded more than 60 projects throughout the state, and half of these are located in Washington's lagging areas. Th d's public-to-private ratio is high—a public investment of $32 million has been associated with an estimated private capital investment of more than $200 million.

Infrastructure cannot overcome an unskilled labor force, a lack of financial capital, or the distance that must be covered to reach the closest markets.

Many of the governments within the region face the monumental task of upgrading or replacing their present infrastructure stock. The challenge is more than simply maintaining existing structures, especially when the need to support future economic activity is so critical. The region's economy, like that of the nation, is undergoing dramatic changes as both the manufacturing and service industries restructure. Technical and management innovations, such as telecommunications, computer automation, and just-in-time inventory controls, are changing the way firms operate, and infrastructure investment strategies must adjust to these anticipated changes, as well as to those that are unanticipated. Given the uncertainty associated with using public infrastructure as a development tool, policymakers should evaluate carefully the locations that are most likely to benefit from infrastructure improvements and explore new ways to improve the quality of service delivery within their jurisdictions. RAC.

Homebuilding in a Boom and Post-Boom Economy

Housing activity, which is sensitive to local and national social and economic trends, has historically been a volatile component of the economy. Since residential investment reflects approximately one-third of total investment in the nation's economy, housing booms and busts directly influence the overall business cycle. During the 1980s, the ups and downs of the housing market made news in all parts of the country; the booms in Texas, Arizona, and New England were tailgated by serious downturns. And more recently, housing activity in California has cooled dramatically—homebuilding is down sharply, sales are weak, and median prices are declining.

Many Pacific Northwest analysts and developers are concerned that this region's housing boom has already lost its luster and may be poised for a downward slide. Does the weakening housing market in parts of the Northwest signal a coming bust similar to those that other regions have recently experienced? Is the Northwest's homebuilding industry vulnerable to the same national trends? What are the factors that influence home construction and how have these economic considerations affected the region's six largest metropolitan areas?

The National Context

The National Association of Realtors has likened the homebuilding industry's performance during the last two decades to a "roller coaster." Sharp residential downturns have accompanied each of the recessions (as defined by the National Bureau of Economic Research), followed by rapid growth during periods of expansion (Figure 1). In years when the economy has grown at moderately rapid rates, the demand for new houses is strong and homebuilding activity is brisk. In the ensuing years, however, when the economy has expanded slowly (or even declined), the need for homebuilding activity recedes and the sector suffers a marked decline.

Housing starts have risen by more than 60 percent in the last decade—from an annual rate of 1.1 million units during the 1981-82 recession to a peak of 1.75 million units per year between 1983 and 1986. Since the early 1970s, there have been only two higher peaks in housing construction: 2.15 million units per year between 1971 and 1973 and 2.02 million units per year in 1977 and 1978. Despite continued economic growth, homebuilding activity, especially for multifamily dwellings, has declined in recent years. In 1988 housing starts totaled 1.5 million, in 1989 starts fell to 1.38 million, and in 1990 they dropped further to the recessionary level of 1.2 million.

The Factors Behind Housing Construction

In the United States, nearly 64 percent of all families own their own housing, and, for many homeowners, a house represents the chief avenue for increasing personal wealth over time. Homeowners monitor changes in housing prices closely and see higher prices as an addition to their wealth—although prospective first-time buyers bemoan the fact that higher prices make home ownership that much more difficult.

Houses, unlike other consumer goods, exhibit particular and sometimes peculiar characteristics. A house is durable, providing shelter for a period that is often longer in duration than the average life expectancy of its owner. In addition, generally only one house is used by an individual household at any one time. And housing is expensive, representing the largest expenditure—either in rents or actual costs—that any of us make in our lifetime.

As long as the demand for housing is constant, the need for new construction is limited essentially to the replacement of deteriorating or inefficient housing stock. If the demand increases due to, for instance, an influx of new residents, the pace of homebuilding will quicken in response. But this growth in home construction will continue only until the shelter needs of the new population group are met. Once local demand is satisfied, homebuilding will return to the replacement level.

This interaction between population-induced demand and homebuilding, however, does not fully explain housing behavior. Interest rates, the level of household income, and demographics also influence the rise and fall of housing starts.

Interest rates and income. As economic activity picked up after the 1981-82 recession, unemployment rates fell and household incomes began to rise. At the same time, mortgage rates fell. According to the Office of Thrift Supervision, effective interest rates for conventional first mortgages for new homes fell from nearly 16 percent in late 1981 to 9.43 in the fourth quarter of 1986. In addition, adjustable rate mortgages (ARMs), which offer relatively low initial interest rates in comparison with fixed rate mortgages (FRMs), became increasingly common after 1981. According to a recent report by the Joint Center of Housing Studies in Boston, the overall impact of rising incomes and falling mortgage rates in the mid-1980s was magnified because a significant number of households that had earlier delayed buying a home (during a recession, the cost of owning a home is higher relative to the cost of renting) found that a home purchase was now possible.

Legislative changes. Within the housing market, multifamily starts have been more volatile than single-family housing units. Both types of construction fell during 1980, but multifamily starts accelerated from 378,800 units in 1981 to 669,200 in 1985. Much of the increased activity was driven by legislative reform, principally the 1981 Economic Recovery Tax Act (ERTA), which liberalized depreciation rules, reduced capital gains taxes, and allowed investors greater opportunities to shelter their income.

Since 1986 multifamily starts have fallen

off considerably, averaging 417,900 units annually between 1987 and 1989, and dropping to 297,200 starts in 1990. Part of the slide can be attributed to the reversal of ERTA's construction incentives by the passage of the Tax Reform Act of 1986. This legislation reduced depreciation write-offs, raised taxes on capital gains, and eliminated passive loss deductions on rental activity. In addition, speculative activity led to overbuilding in some rental markets, resulting in increased vacancy rates and depressed rents.

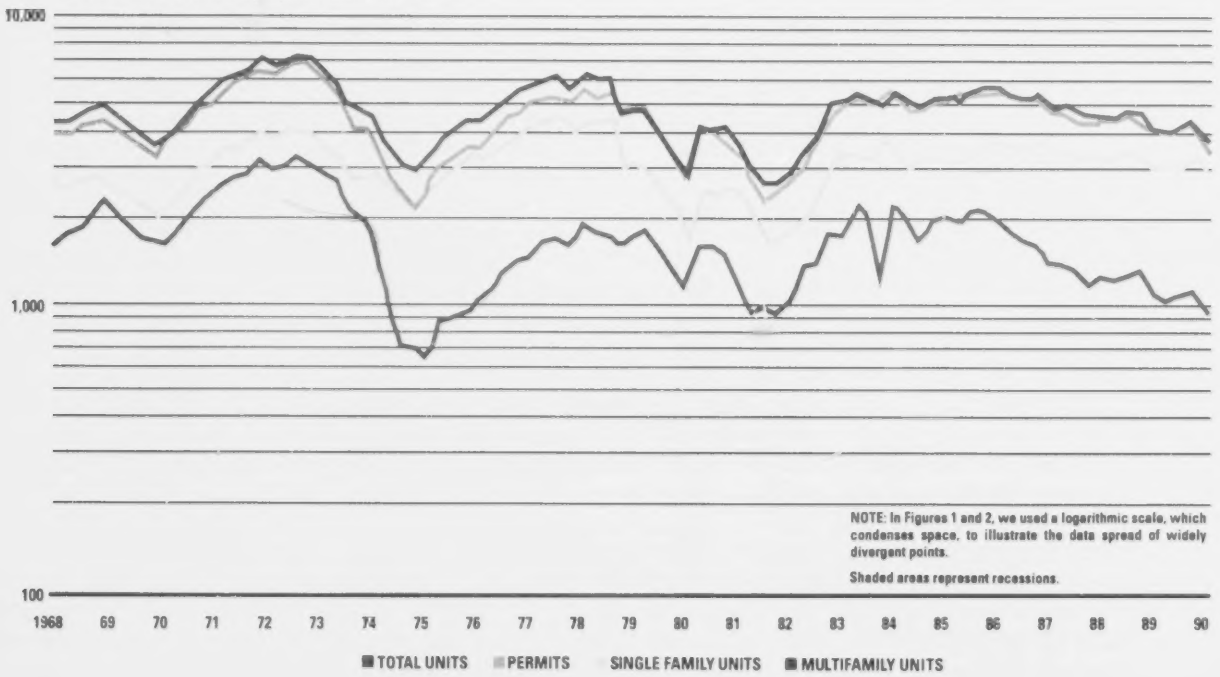
Demographics. The steady tide of baby boomers helped keep residential construction afloat during the 1970s, but may have weakened the demand for single-family homes, as well as apartments, during the 1980s. In the 1970s, the number of households headed by an adult between 25 and 34 years old—the prime house-buying age group—increased by nearly 135,000 per year. In the following decade, the rate slowed to an annual increase of 53,600. Because the population within this age group is projected to shrink further during the 1990s, demographic forces will work against new housing activity in the coming years.

A recent U.S. Bureau of the Census report, *Homeownership Trends in the 1980s*, also states that the nation's households have drifted away from a traditional family orientation. Because so many families are now headed by a single parent and the number of nonfamily households (often consisting of a single person) has grown, home ownership rates during the 1980s fell further than the cohort trends would indicate. Another possible explanation for the gradual decline in single-family homebuilding is that the construction boom of the mid-1980s satisfied the pent-up demand that originated in the recession years earlier in the decade. So the decline was, in part, simply a return to normal construction levels.

Deregulation and creative financing. Housing starts in recent years have been stimulated by lower conventional mortgage rates. In 1987 and 1988, rates were relatively low and currently are well below those of the first half of the 1980s. But these interest rates, in real terms, are still high relative to historical rates. A recent study by economist Randall Pozdena of the San Francisco Federal Reserve Bank found that the responsiveness of housing starts to declines in long-term interest rates has weakened since 1983—a result, in large measure, of innovations in home financing and financial deregulation. As a consequence, however, a given decrease in interest rates leads to a smaller increase in housing starts.

Prior to financial deregulation, which expanded the supply of loan funds, rising interest rates tended to reduce the money available to conventional housing lenders, such as savings and loan associations and banks. This phenomenon, called disintermediation, occurred because conventional mortgage lenders were restricted in their ability to pay competitive deposit rates, so investors took their funds elsewhere. As the supply of loanable funds available to conventional lenders diminished, housing demand and investment levels waned. Additionally, mortgage innovations—lenders making ARMs more accessible and broadening the definition of household income required for a mortgage (to include the income of a second wage earn-

Figure 1: Housing Starts and Total Permits Issued in the United States, 1968-1990
in thousand units, seasonally adjusted annual rates



er)—made the affordability of homes less sensitive to rises in long-term interest rates.

A hedge against inflation. Recent projections by DRI/McGraw-Hill assert that households, by and large, will be wealthier during the 1990s, and we can expect that a higher percentage of single-family homes will be built for the potentially lucrative trade-up market. Inflation, however, lessens buyers' overall purchasing power, and housing prices that increase at a faster rate than inflation—as in the Northwest's metropolitan housing markets from 1988 to 1990—reduce the affordability of new homes. Yet if people believe that housing prices will continue to appreciate rapidly, they purchase homes as a hedge against inflation or for speculative reasons. Their response to rising prices, under these circumstances, represents an investment decision: their expected return on investment is greater than the cost of capital.

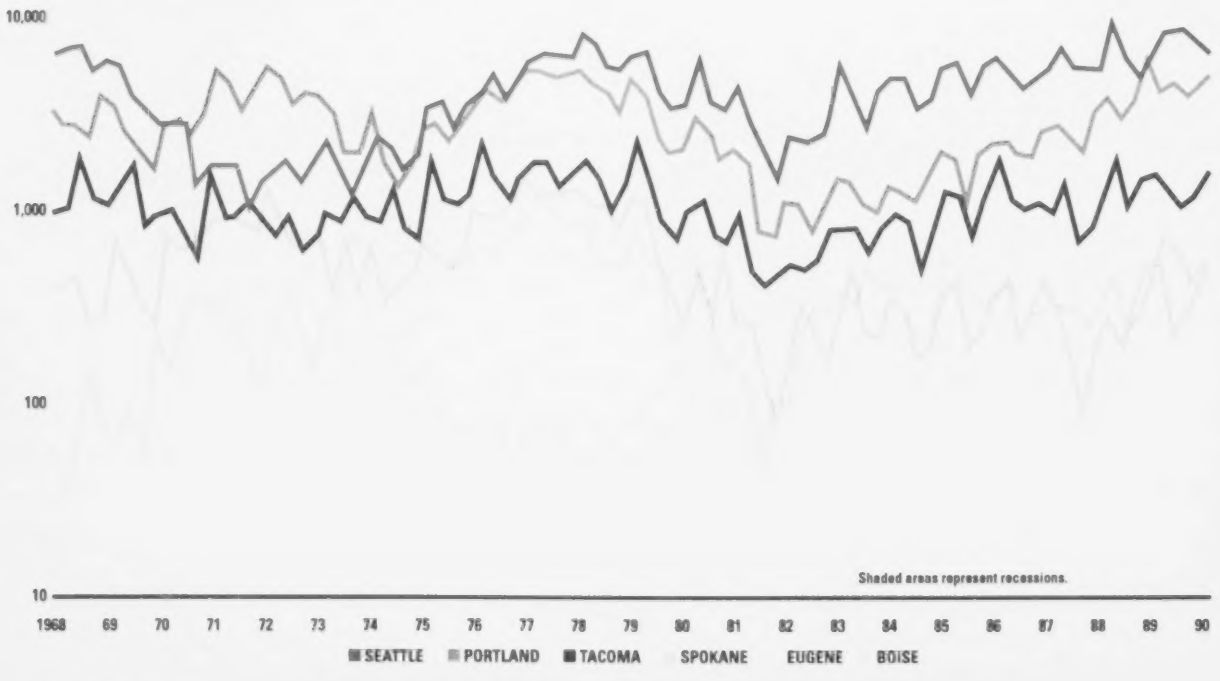
Since the mid-1980s, increases in new home prices have reflected increases in the quality of homes; houses built today tend to be larger, with more amenities, than homes built in the past. Even so, according to a housing price index developed by the U.S. Department of Commerce, which adjusts for such qualitative factors as lot size and a house's square footage, new home prices rose at an annual rate of 3.6 percent between the first half of 1986 and the first half of 1990, a rate slightly higher than the rise in overall consumer prices.

Inflation continues to be a factor in people's decisions to buy or build new houses. With higher rates of inflation, real after-tax mortgage costs are reduced, and the homeowner benefits from the capital gains, which lowers the attraction of alternative investments and encourages prospective buyers to buy now rather than pay more later. But high levels of inflation can be a deterrent to home ownership if prospective buyers are unable to meet down payment requirements or cope with initial mortgage payments.

Consumer confidence. Finally, consumer confidence, the public's perception of future business conditions, is closely tied with the housing industry. When confidence is high, as it was from 1983 to 1989, it triggers strong homebuying—and homebuilding—activity. But when consumers perceive, for whatever reasons, that the future may bring hard times, the number of potential buyers for new houses decreases. Consumers are extremely sensitive to their own personal day-to-day economic experiences, and their views often reflect the vigor of the nation's economy.

While the phenomenon of disintermediation has weakened recently, other factors continue to play a prominent role in the wayward movement of homebuilding. The national slowing in homebuilding can be attributed to overbuilding in some regions, changing demographics, high interest rates, zoning restrictions, and, most recently, the savings and loan scandal, which has increased regulatory scrutiny and restrictions on loans to developers and builders. In general, however, the demand for new houses is reduced by high interest rates, low rates of household formation, and the deterioration in home affordability (the interaction among home prices, interest rates, and household income). In contrast, increases in demand for new houses are generally associated with

Figure 2: Total Permits According to Metropolitan Area, 1968-1990
in housing units



lower interest rates, increased household formations, regulatory incentives, and improvements in home affordability.

Housing Trends in the Pacific Northwest

During the 1980s, homebuilding in the Northwest generally imitated the cyclical nature of national trends, particularly in the region's six largest metropolitan areas. [We used housing permits data because housing starts are unavailable for metropolitan areas, and U.S. housing permits have traditionally closely tracked U.S. housing starts.] Homebuilding activity in the region's largest cities bottomed out in 1982, one year after the national homebuilding trough (Figure 2).

Home construction in the Northwest did not rebound as strongly as that within the nation during the early years of the recovery. But when national homebuilding activity leveled off and began to decline in 1986, residential construction in most of the Northwest's metropolitan centers accelerated. While the number of permits issued remained low in Eugene and Spokane, the permits written in Tacoma increased slightly, and the number in Boise, Portland, and Seattle indicated robust growth.

This pattern of regional housing starts was primarily influenced by income and population changes. Between 1979 and 1982, real personal income dipped to a 0.4 percent annual rate in the United States; in Eugene and Portland annual rates fell 3.3 and 4.3 percent, respectively. Real personal income actually increased within the other metropolitan centers, although the rate of growth showed no change during 1983 and 1984. Since then, real personal income growth rates have rebounded in most of the area's cities and now exceed the national average. Population growth within most of the region's metro areas slowed during the early 1980s, only to accelerate in the latter years of the decade, as people migrated to the Northwest to benefit from the employment growth. Seattle, Portland, and Boise were among the fastest growing metropolitan areas from 1987 to 1990, and that population growth contributed to healthy gains in homebuilding activity.

Nationally, the lack of substantial growth in homebuilding after the 1986 legislative reform was partially due to declines in multifamily construction. In contrast, the region's strongest homebuilding markets—Seattle and Portland—have been buoyed by multifamily construction activity, and the number of multifamily housing permits issued has remained substantially above the national average. Despite the tax policy changes, the region's strong performance in multifamily housing reflects the rapid economic expansion and population growth that has occurred since 1986.

What About the Future?

Housing activity is still strong in the Pacific Northwest, triggered by healthy rates of employment growth, the trade-up activity that rising incomes generate, and increased inmigration. These factors, added to the demand attributable to the normal rates of household formation and housing stock adjustment, have created a construction boom in many of the region's housing markets.

However, the incredibly robust growth experienced by Northwest cities may be the perfect prelude to a collapse in homebuilding. Increases in housing activity often continue well after a booming economy has slowed, resulting in rising vacancy rates and stagnant housing prices and rents. The consequent decline in housing construction often appears much more precipitous than the slowdown in employment growth or the reduction in affordability would suggest.

How vulnerable is the region to a sharp decline in house construction? In the near term, homebuilding activity is likely to continue to adjust to slower economic growth without collapsing. Signs of market vulnerability—the share of total employment provided by the housing industry and the number of housing permits awarded to new migrants—have not been out of line within the region. This suggests that only a severe regional recession could produce a collapse in the homebuilding industry. In the near term, an economic slowdown within the region should not represent a severe blow to the housing market. RAC

Economic Developments

(continued from page 8)

that there was far more to the makeup of the Tri-Cities than Hanford."

Foremost was the recognition that the region's traditional agricultural base presented tremendous economic potential. The Tri-Cities, with a variety of labor- and capital-intensive crops grown under both irrigated and dry-land cultivation, is one of the premiere agricultural regions in the Northwest. Growers produce such high-value crops as asparagus, canola, carrots, onion, sweet corn, and exotic azuki beans and edamame, which support the region's sizable food processing industry (3,500 employees with a payroll of $65 million in 1990). Local products include canned and frozen vegetables (particularly potatoes), fruit and fruit juices, preserves, and wine. "Still, there is significant raw product that is leaving the area for value-added processing in other areas," explained Paul Vick, the manager for the Port of Pasco. The region's aggressive agribusiness promotion includes the $5 million, 250-acre Pasco Processing Center, which is situated near a multimodal transportation network.

Community leaders and economic developers are promoting the Tri-Cities as an ideal setting for high-tech business formation and expansion. The region's technology base is now composed of special metals, solar-powered engines, medical imaging, wafer chips, reprocessed waste products, and software companies, and the Tri-Cities boasts one of the highest Ph.D./population ratios in the United States.

Today, Richland, Kennewick, and Pasco have not only recovered, they've become one of the state's fastest growing regions. In 1990, when job growth in Washington slowed to 3.4 percent, employment increased by more than 5 percent in the Tri-Cities. Hanford, with its new mission of environmental restoration, has reasserted its dominance, adding 1,800 jobs in the last two years. Dave Howry, U.S. Bank's vice president and the chairman of the Tri-Cities Industrial Development Council, confidently asserts that "the regional economy will fare quite well in the future."

WILL POPULATION GROWTH AFFECT THE COST OF PUBLIC SERVICES?

BY CATHERINE McDOLE RAO AND DAVID C. CLARK

WITH POPULATION FORECASTS FOR the Puget Sound indicating an increase of 52 percent by 2020, government planning agencies are gearing up for the expected pressures on public services. Residents are worried about the deterioration of their future quality of life, and taxpayers, both private and corporate, are concerned about the tax levels that may be necessary to support expanded services.

A 52 percent increase means 1.4 million new residents in King, Snohomish, Pierce, and Kitsap counties. Each new resident must have access to water and sewer systems, waste disposal, law and fire protection, social services, transit systems, roads to travel on, and schools to attend. What's more, these public services must be supplied at a cost that is acceptable to all taxpayers.

We can assume that the region will actually grow to the 4 million inhabitants mark —perhaps not by 2020, but by a date close to that. The 52 percent figure is a reasonable assumption, based on a future growth rate that is somewhat below the increases of the past 30 years.

What is more difficult to predict, however, is whether the land use patterns that exist today will be able to withstand the strain of future growth. The Puget Sound Council of Governments (PSCOG), the region's transportation planning agency, responded to this issue by developing alternative scenarios for the region's land use—concentrating on transportation, population, and employment—through the year 2020.

EDITOR'S NOTE: The Puget Sound Council of Governments will cease to exist on June 30, 1991. A new agency, perhaps called the Puget Sound Regional Council, will be formed after that time.

PSCOG's responsibility as an association of local governments is to develop and coordinate transportation plans and publish population estimates and forecasts. Its members represent the cities and the four counties of the central Puget Sound. The rapid increases in traffic congestion in King, Snohomish, Pierce, and Kitsap counties—the result of the region's recent population surges—gave PSCOG the impetus to develop its five alternative land use scenarios and to publish the results in a newspaper supplement entitled *VISION 2020, Region at a Crossroads: Time to Choose*.

Each of the scenarios was based on a similar future population forecast, but positioned the population according to different land use configurations.

- The **No Action** alternative contained no additional investment in transportation.
- The **Dispersed Growth** option described sprawl-type development served primarily by highways.
- The **Existing Plans** alternative called for a continuation of current trends.
- The **Major Centers** and **Multiple Centers** alternatives channeled employment and population into the region's existing cities and recommended a relatively high investment in new public transit facilities, including ferries and light rail systems.

After publishing its findings in draft form in June 1990, the council put its alternatives to a "vote," asking community groups and the public to comment on and rank the five choices. Not surprisingly, the No Action and Existing Plans options were rejected outright and the Dispersed Growth alternative fared little better. Ninety percent of the respondents favored the Major Centers and Multiple Centers plans as the optimal means to accommodate future growth. PSCOG then created the **Preferred Alternative**, a composite of the best features of the Major Centers and Multiple Centers plans. This hybrid calls for urban growth in up to 15 existing population centers, which would be linked together by a transportation network that features increased travel options, including a new light rail system. Since light rail must service relatively high-density areas to be cost-effective, the Preferred Alternative is based on increased residential density and urban centers with firm growth boundaries.

All the *VISION 2020* alternatives involve the extension of current levels of public services to meet the needs of the incoming population. But what would the expected service cost to municipal and county governments (and, ultimately, to taxpaying individuals and businesses) be for each growth alternative? Was there one option that would cost substantially less than the others?

To explore the answers to these questions, PSCOG commissioned Battelle's Human Affairs Research Centers (HARC) and Economic Databank Consultants (EDC) to analyze the impacts of population growth and density on the cost of public services for the five original alternatives and the Preferred Alternative within the cities and counties of central Puget Sound. Because "public services" embraces a broad slate, we included in our examination the categories of general government, law enforcement, fire, detention, social services, mental and physical health, culture and recreation, phys-

ical environment (natural resources and engineering), utilities (subdivided into garbage collection and disposal, water, sewage collection and treatment, energy), and education. Future transportation costs, a critical element in any evaluation, were eliminated from our purview.

Our task was to determine the expected public service costs of the six *VISION 2020* alternatives. Based on current levels of public services for a hypothetical average-sized city, we asked, what effect would a 50 percent population and density increase have on public costs? Would expenditures on a per capita basis increase, decline, or show no change?

The Analysis and the Assumptions

To measure economies of scale in relation to public service costs and population growth, we used a statistical technique called regression analysis to measure the correlation of the variables through time and across municipalities. Our data source was *Local Government Comparative Statistics*, produced by the Washington State Auditor's Office. The database consisted of city and county capital expenditures and operation and maintenance costs for 69 incorporated cities, plus the four county totals. Within each city and county, we gathered expenditure data (adjusted for inflation) on both essential and nonessential services from 1986 through 1988. We then analyzed the data in terms of changes in population, land area, and population densities.

In our evaluation, we made a number of assumptions. First, we surmised that the future mix between employment and population by city and by county would reflect the current mix. Second, we supposed that taxpayers will make the same choices in the future that they have made in the past. Our study did not adjust for quality differences in service levels among communities, since the expenditures reported reflect the quality levels that taxpayers have already selected.

Predicting the Cost Increases

A representative medium-sized city in the central Puget Sound would have a population of 25,000 and a gross population density of 3,000 people per square mile. If our average city grows at the projected regional average of 50 percent (without annexing adjacent land), by the year 2020, the predicted per capita increase in the total cost of municipal services would be 49 percent (Table 1). The impact of rising costs in some categories is cancelled out by falling costs in other services, so virtually no change occurs in total per capita expenditures. Costs would increase for detention, fire, transportation, social services, culture and recreation, and physical environment. Per capita costs would decline for water, sewer, garbage and solid waste, law enforcement, mental and physical health, and education. General government showed no change, and the electric and gas service results were less predictable, partly because of limited data points, but also because these expenditures reflect the population of a city and its environs.

Certain of the services we considered fall naturally into a broader category called essential services, which consists of the public systems that supply the basic requirements for physical survival. When the essential services are considered together, the impact of population growth is neutral: cost increases duplicate population growth. Nonessential services have a greater component of choice, and three of these four categories rose in terms of per capita expenditure as a result of population increases.

The total effect is very close to an even trade-off, with the outcome that per capita costs, for a given unit of population growth, do not change measurably. We should note, however, that growing urban areas tend to demand not only better services, but a wider range of services, such as cultural amenities, parks and recreation, and social services. As cities grow, they incur additional costs in some service categories in order to maintain an acceptable level of quality. Common examples include higher law enforcement costs to counter increased crime, or park and greenbelt development to replace the open space of what was once a more rural community. Moreover, some of the public programs in the larger and more densely populated cities serve regional demands, even though the funding for culture or recreation is from local coffers.

Table 1: Projected Percent Increase in Municipal Services for a City of 25,000, with a Gross Density of 3,000 People Per Square Mile

	CAPITAL COSTS	OPERATING COSTS	TOTAL COSTS
ESSENTIAL SERVICES			
Water	60	47	49
Sewer	37	36	36
Electric and Gas	111	51	53
Garbage and Solid Waste	NA	24	24
Law Enforcement	21	45	45
Detention and Correction	30	71	69
Fire Protection	20	64	63
Transportation*	74	65	74
General Government	44	51	50
TOTAL	57	49	50
NONESSENTIAL SERVICES			
Mental and Physical Health	30	40	38
Social Services	9	58	55
Culture and Recreation	82	74	75
Physical Environment	19	59	58
TOTAL	71	66	67
MUNICIPAL SERVICES	**60**	**52**	**53**
Education	NA	NA	43
TOTAL	**NA**	**NA**	**49**

*Transportation costs are not included in the totals.

Which of PSCOG's six *VISION 2020* forecast scenarios would prove least-cost? Our research indicated that, for planning purposes, there are no meaningful differences in the impact on public service costs among the six alternatives (Table 2). No alternative is superior in terms of cost savings; none of the choices would lead to an appreciable difference in tax revenue needs.

[Although the scope of our study did not include transportation costs, for our private interest we ran a future scenario that incorporates those expenditures. Our regression analysis revealed that per capita costs would increase as the population grows, but there would be no noticeable difference among the alternatives.]

Table 2: Cost Projections for Each VISION 2020 Alternative, Including Education Expenses*

	PROJECTED POPULATION	AVERAGE PER CAPITA COSTS
No Action	4,066,229	$1,985
Dispersed Growth	3,959,582	$1,973
Existing Plans	4,055,455	$1,984
Major Centers	4,055,460	$1,982
Multiple Centers	4,056,894	$1,980
Preferred Alternative	4,066,200	$1,973

Table 3: Average Per Capita Cost of Public Services by City Size*

	LESS THAN 5,000	5,000 TO 24,999	25,000 TO 49,999	MORE THAN 50,000	WEIGHTED AVERAGE
All Services	$1,386	$1,157	$1,238	$2,636	$1,629
Excluding Transportation	$1,330	$1,105	$1,179	$2,522	$1,570
Excluding Transportation and Utilities	$775	$657	$949	$1,080	$881

* *in 1988 dollars*

Is There a Fiscal Rationale?

Most land use planners agree with the conventional wisdom that cities with higher population densities spend less on public services. The more compactly developed the community or county, the more we can benefit from economies of scale and reduce per capita costs.

But the supporting research for this conventional view has been based on the public costs of a subset of services—usually water, sewer, and roads—rather than on the full range of essential and nonessential services provided by government. In most cases, analysts have examined only capital costs and have ignored operation and maintenance expenditures. In addition, most research projects have unfortunately been confined to the geographic level of a subdivision—not to the community as a whole.

According to our research, if public costs, due to expenditure substitutions among the categories, remain the same regardless of the density of a community, much of the *fiscal* rationale for encouraging one or more mammoth cities in the region is lost. There is no evidence that a highly dense Seattle is more fiscally efficient than a less dense Seattle. Instead, planners can focus on issues other than fiscal efficiency. The dominant concerns may well turn out to be lifestyle considerations—the preferences that residents express for open space, for the placement and quantity of greenbelts, or for communities linked by specific modes of transportation. Business planners will want to consider new urban growth boundaries and their impact on individual firm costs and convenience.

What can we conclude then if we look at city size and the cost of services? Our analysis indicates that average per capita expenditures for public services were lowest for the mid-sized cities, somewhat higher for the smallest cities, and highest for the largest cities (Table 3). If we exclude the utilities and transportation categories to make city sizes more comparable (utilities are typically provided only by large cities and transportation has had a large federal component in the past), we see that the largest cities cost $131 more per capita than cities with between 25,000 and 49,999 people and $305 and $423 more than the small to mid-sized cities.

What does this mean for inmigration? At the business level, a firm would want to calculate differential tax level expectations into its location decision. Based on current fiscal structures, the mid-sized cities have lower expenditure levels that may, depending on the firm's requirements, encourage future business movement to these cities. As for individuals, personal residence decisions will certainly continue to include tax considerations in housing selection, and rising housing costs in the larger cities may well strengthen the movement to smaller and mid-sized cities. Future planning efforts, of course, may alter the incentive structure for both businesses and individuals.

Beyond Fiscal Issues

Where will growth occur? Probably everywhere, but the extent to which it will be concentrated is an issue that's currently being decided by the residents and governments of the Puget Sound. We can anticipate that some growth will be decided through planning processes and some, undoubtedly, through de facto movement. What we do know is that a community's increasing density does not automatically lead to lower public costs.

We can predict that, if other costs and the current tax structure stay the same, the lower tax burdens of the mid-sized cities will encourage a future flow of businesses and residents to these communities. Because there are no public cost advantages to any of the Puget Sound Council of Government's six growth alternatives, planners and residents can now concentrate on issues other than fiscal ones in developing a vision of growth for the four-county region.

Catherine McDole Rao is the owner of Economic Databank Consultants. David C. Clark is a research associate at the Battelle Human Affairs Research Centers in Seattle.

Marketing to Japan: Can an Export Firm Go It Alone?

by Edward Brooks

ED LEBEL

In recent years, as frustration with a seemingly fixed $45 billion annual Japanese trade surplus with the United States continues, U.S. companies have intensified their criticism of Japan's exclusive product distribution system. Many U.S. business people claim that these distribution channels, characterized by complex chains of personal relationships that date back several generations, tend to exclude the American-made products that compete directly with those of the established domestic wholesalers. As a result of these constraints, many U.S. exporters believe that the most viable method of entering the distribution chain is by selling to the influential Japanese trading companies that have the channel power to push their products through the system.

Are U.S. export firms actually constrained by Japan's distribution system? Or are there firms that have discovered how to successfully market their products within Japan? We surveyed 27 Pacific Northwest companies that export to Japan and received responses from 16 of them. Each respondent, generally an export sales manager, was asked to describe the products that the company currently exports to Japan, to estimate how long the firm has been exporting those items, to outline the distribution method that is now being used, and to comment on the process of marketing products in Japan. The 16 participating firms included four food companies, two wood products firms, two medical equipment manufacturers, and one beverage company, clothing firm, airplane parts manufacturer, food-processing equipment firm, glass manufacturer, computer software firm, and electrical equipment tester.

An Asset or an Impediment?

Of the 16 companies surveyed, only three sold their products to Japanese trading companies, and this was one of the more surprising findings of the study. In general, the Northwest firms viewed trading companies as an unnecessary impediment to their successful marketing operations; a number of firms mentioned that

they had employed trading companies early in their export histories only to abandon them in favor of dealing directly with Japanese wholesale firms. Only one of the participants considered its relationship with its trading company to be a long-term connection that was worth continuing—although that firm also spoke of the need to prod its trading firm's domestic wholesaler to actively sell its products. We also discovered that the generally held belief that Japanese wholesalers (which normally purchase their goods from a trading company) will not deal directly with a foreign manufacturer was not an absolute. We found several examples of such direct purchases.

Yet the existence of long-established relationships still plays a role within the marketplace. Two export firms explained that they sold their products to wholesalers because their retail customers had asked them to. A local food manufacturer, for example, felt obligated to use a number of intermediaries at the request of his retail customers: "We sell our products through wholesalers. The wholesaler has a steamship company that he prefers to work with, which has a drayage company that it deals with." Another respondent said, "We sell directly to retail firms, by selling to their wholesalers."

How Strong Are the Bonds?

Manufacturers can often compromise or undercut market intermediaries without incurring negative market reactions. Despite the widespread existence of binding channels between Japanese retailers and their intermediaries, the degree to which our survey companies have successfully sold around established market intermediaries (once they were no longer found to be useful) was unexpected. Four companies reported that they had done so, anticipating a possible negative reaction from within the distribution chain, but finding, instead, a positive response in both sales and control. Each of the four firms, however, acknowledged that they were careful when making the change to allow the intermediary to save face. A local candy manufacturer, for example, recently decided to sell to other retail firms in addition to its long-term client, a department store, but chose outlets that did not compete directly with the retailer. The store's contact was nonetheless offended by the confectioner's move, even though the newly added retailers sold in different geographical markets. Loyalty is still expected within the chain.

As channel bonds weaken, U.S. firms can find themselves with unanticipated opportunities. A local software firm hired the sales staff of its former Japanese representative after the company established its own marketing and manufacturing subsidiary in Japan. The software firm's export manager justified the move by saying that there was an "amicable separation, a parting of vision" between the two organizations. She also added that in the Japanese market good representation within the distribution chain can account for more than 80 percent of a product's success.

Two of the participating firms, a custom airplane parts manufacturer and a maker of medical equipment, stated that newer products are often sold directly to retailers or consumers without the constraints of binding distribution chains. In these cases, the products are in high demand in Japan and, according to our contacts, both companies simply take sales orders—there's little marketing to be done. A used clothing wholesaler added that his biggest constraint is not having enough fashionable clothing to meet the needs of his Japanese buyers.

A local glass manufacturer, which exports stained glass to Japan, said that although the firm originally sold exclusively to small retail outlets, it now has a bonded warehouse and hires local representatives to market its products to Japanese furniture and cabinet makers. The firm's CEO predicted that his Japanese representatives would remain useful to the furniture makers only as long as the craftsmen are using smaller quantities of glass. "In 10 years," he said, "we'll need neither the representative nor the warehouse."

The Puget Sound candy company has been able to by-pass wholesalers by capitalizing on the strength of past friendships. More than 20 years ago, the export manager took a trip around the world, visiting buyers along his route. While in Japan, he introduced himself to an executive of a local department store, a good relationship developed, and his company has been exporting directly to that store ever since.

Our survey results failed to establish that certain products can only be sold via specific channels. Of the four firms that export food items, for example, two said that they use wholesalers, one sells to retailers and trading companies, and another has hired company representatives. One of the medical equipment firms sells directly to its customers, the other markets its products through a local representative. Of the two wood products firms, one sells through a U.S. export company, and the other has established sales offices in Japan to market to local wholesalers and to a large trading company.

Product and Package Modifications

All 16 firms, surprisingly, mentioned that they do little product or package modification for the Japanese market. What's more, only three firms said that they have created products specifically for Japan and a fourth is considering doing so. Many of the technologically advanced products, such as electrical testing equipment, aerial lifts, and medical devices, appear to perform so well that customizing is not an issue. None of the equipment manufacturers mentioned modifying their products for different electrical voltages or downsizing the equipment for tighter work spaces. It may be that the physical conditions in which these sophisticated products are employed are very similar in both Japan and the United States, or perhaps the demand is so great that modifications are not necessary to sell these products.

One respondent said that the only modification his company has made is increased product quality. "End-users in the United States will put up with a leaky hydraulic pump," he explained. "They'll put a rag around it and complain about it, but they'll still use it. Our Japanese consumers would just refuse." The manager added, "The

strength of their economy demands products that cannot always be supplied by Japanese manufacturers, although I think that consumers would rather buy Japanese products. We have less difficulty selling in

that market than other firms because we have less local competition."

The food companies and the beverage firm also stated that they had made few product or package modifications for the Japanese market. In recent years, food items that are produced and sold within the country by Japanese firms have been marketed as American by implication. Southern fried chicken, for example, and such popular culture articles as T-shirts do particularly well. It is also common for Japanese food products to have a mix of Western and Japanese script on their labels, so there is less impetus for U.S. food companies to transform their existing packaging. Western-style packaging may, in fact, be the product's point of differentiation.

The Image Says Japanese

The most effective distribution method for an American firm, our survey revealed, is the establishment of a subsidiary in Japan, which is often perceived in the Japanese marketplace as a wholly owned domestic firm. A number of respondents remarked that, with the exception of those few items that use their foreign origin as a selling point, Japanese consumers prefer to buy local products over imported goods. Many American sales managers believe that the most successful marketing tool is to create a subsidiary and cultivate the impression that it is a Japanese firm. The Seattle software firm that participated in the survey does most of its research and development, manufacturing, and promotion for the Japanese market through its subsidiary. Our contact within the firm said, "Most people in Japan believe that we are a Japanese company, and we like that."

In another instance, however, a local manufacturer of testing equipment decided not to follow the software firm's lead, and it claims that it has met with only mixed success as a consequence. Although it has a local office in Japan, the company, for reasons of control, opted to go its own way. "We have always had some problems in the Japanese market because we are identified as a foreign firm, and the most successful companies in Japan are the domestic ones," the export manager stated. "If an American company can project itself as a Japanese firm, it will do better."

The Westernization of Japan

When asked about their perceptions for the future, many respondents commented that Japan is changing, becoming more Western, albeit slowly. "Their system of distribution is doomed to break down in the future," predicted one sales manager. "As the Japanese travel and learn how other people live, they become more aware of the sacrifices they're making, including the high cost of products due to the number of middlemen that goods now go through."

"The Japanese are beginning to relax a little bit," said another firm's representative. "They aren't willing to work quite so hard. The popular movement toward working less and getting better products for less money is growing."

A third contact agreed: "Changes are occurring. Old bonds are slowly breaking, and communication is now taking place among parties that didn't talk before."

But an export marketer with a Northwest food company wasn't nearly as optimistic. "They always outsmart us," he said. "This is the equivalent of a holy war to them, and the Japanese will do everything possible to win."

Representation in the Japanese Market

Less than 10 years ago, the only method of entering the Japanese market was through one of a few very large trading companies. Now, U.S. companies are entering the distribution system at all points along the chain and, in some cases, are selling directly to the end-user. While American firms are still conscious of the potential liabilities of selling around established intermediaries, the fact that they do so—and successfully—indicates the degree to which the distribution system is willing to accept change.

In addition, U.S. companies have had a relatively high degree of success in exporting to Japan without modifying their products or packaging for that market. From aerial lifts to wines and defibrillators, these firms are selling the same products in both countries. This may be an indication of the existing demand that Japanese consumers have for unaltered American products, but it may also signify that U.S. manufacturers have been altogether too slow in creating products specifically for foreign markets.

How should companies that anticipate exporting to Japan evaluate the different possibilities for marketing their products? The primary factors to consider are the types of products that you plan to offer and the amount of competition from domestic firms that you'll be likely to encounter in the Japanese marketplace. Technologically sophisticated equipment that would face little rivalry may be an indication that your firm could market directly to consumers or end-users. If the competition is considerable, the best decision may be to work through a Japanese representative, who will have the necesssary contacts to market those products successfully. Although the bonds of distribution channels are weakening, they still exert a substantial amount of influence. As one of our survey respondents advised, "Align yourself with a good Japanese company and stay with them."

Edward Brooks, a recent MBA graduate of the University of Washington, is an international marketer for a Northwest firm.

Gallery

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Watching his infrastructure tax dollars at work: Franklin Roosevelt at Grand Coulee Dam, 1937.

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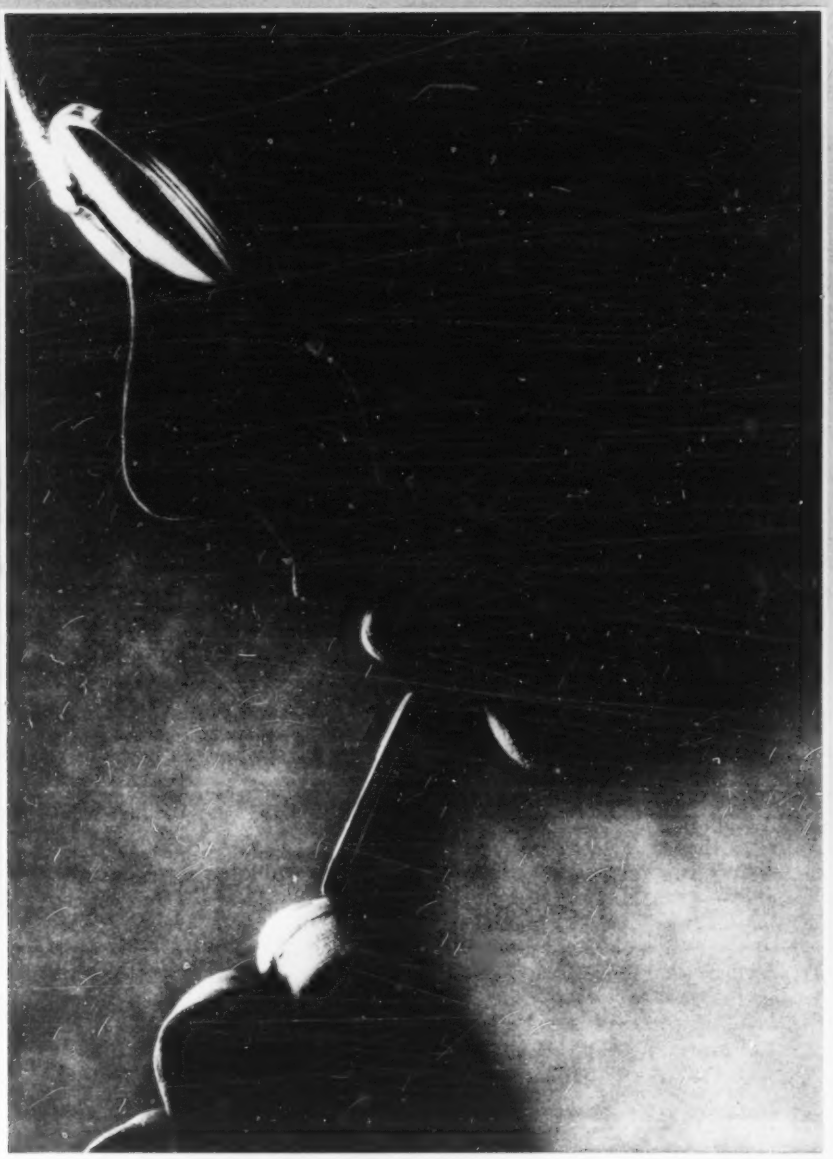

The Northwest's Entrepreneurs: Creativity and a Compelling Vision

REGIONWATCH

- ▶Savings and Loans—
- ▶
- ▶

Commentary

A Forum that Offers Diversity and Value

Did half a decade really go by so quickly? In 1985 I had just taken office, and the University of Washington School of Business Administration had just begun publishing *Pacific Northwest Executive*. In those five years, Washington state's economy has blossomed, and the magazine has helped chart its growth.

While some people have criticized universities for their aloofness toward the public, the UW's School of Business has demonstrated its commitment to the community by sharing its expertise and insight in the forum provided by the *Pacific Northwest Executive*. The magazine has taken in-depth looks at the promises, as well as the problems, associated with economic development. Thanks to the public-spiritedness of Seafirst Bank, which has sponsored the magazine since its inception, the *Executive* offers diversity and value, and successfully captures the Northwest's unique spirit of adventure and endeavor. Such energy has, in our history, propelled such corporations as the Boeing Company to the top of the aerospace industry.

But that spirit is not merely relegated to our past. Here and now, Washington state and its government continue to nourish the entrepreneurial spirit. For example, biotechnology companies established here in the last decade have already gained national recognition and the legislature has recognized the industry as one of the state's most promising business sectors. A blue-ribbon panel I appointed recently completed a 15-month study that found the state can play an important role in fostering capital development, streamlining regulation, promoting human resources, coordinating technology transfer, and acquiring support facilities for biotechnology.

Other smaller but growing companies can benefit from this encouraging climate. I recently helped kick off the *Inc.* Council of Growing Companies, sponsored by *Inc.* Magazine, Price Waterhouse, and IBM. These newly emerging enterprises have unique needs for networking and obtaining information to sustain their growth. The council promotes communication among business leaders, gives growing companies a unified voice on economic issues, and provides information and support for successful entrepreneurs.

One of the council's greatest challenges is preparing these firms to take advantage of the growing international trade opportunities that Washington enjoys as a result of its location on the Pacific Rim. But such progress also has its costs: the growing economic disparity between the state's eastern and western regions, soaring housing prices, and traffic snarls. While we clearly want growth, we've also learned that it needs to be managed carefully, guided by the recognition that business is the lifeblood of Washington.

Every one of the state's residents depends on a healthy and growing economy. Fostering such an economy—in Washington's rural areas as well as its urban centers—is one of state government's greatest tasks. Yet economic development is about more than building business. It's about building communities. We need to encourage growth while facing the reality of increasingly scarce resources. We must educate our work force and maintain our respect for the environment.

These are worthy challenges. The key to resolving them lies in the spirit of entrepreneurship—the willingness to risk and the courage to persevere.

These often competing issues need a regular forum so that they can be fully explored. *Pacific Northwest Executive* provides such a forum. The magazine brings together the opinions of people who are qualified to lead discussions on the importance of education, the need to adapt as we charge into a new century, and the need for cooperation and communication. I have often said that we need to think ahead and act now. That is what *Pacific Northwest Executive* is all about.

Booth Gardner
Governor of the State of Washington

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VOLUME 7, NUMBER 3 JULY 1991

Entrepreneurship: The Vision Never Fades, the Mission Never Ends 2
By Fred Moody

REGIONWATCH

- Economic Developments in the Pacific Northwest 7
- The Savings and Loan Crisis: Can the Northwest Avoid Its Consequences? 9
- Annual Economic Indicators 12
- A Second Look at the U.S.–Canada Free Trade Agreement 14

Education's Partnership with Private Industry: How Close Is Too Close? 18
By Daniel Jack Chasan

Can Rivals Become Partners? The Ports of Tacoma and Seattle 21
By Bob C. Donegan

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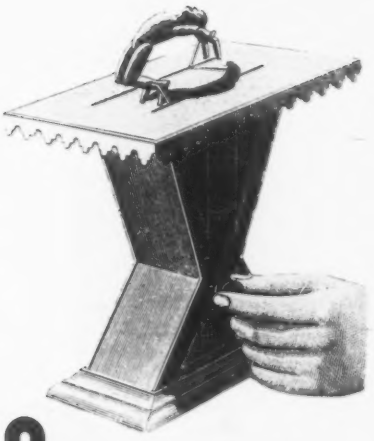
ENTREPRE

THE VISION NEVER FADES

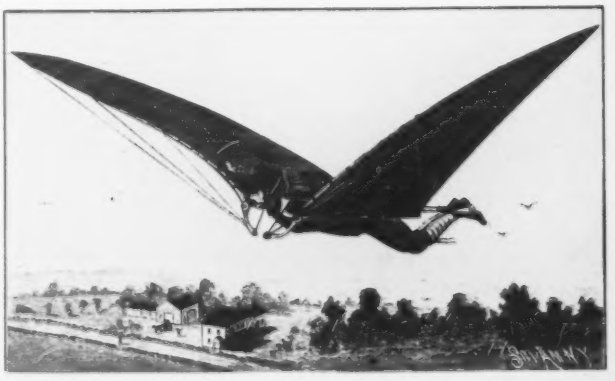


Among the most remarkable features of the American political experiment is our country's fostering of the entrepreneurial urge. Our corporate and legal climate, by means of a cunning combination of stifling and inspiring conditions in the marketplace, impels our best and brightest into self-employment, where the rewards for vision and ingenuity can be immeasurable. Our business world is a culture that is designed, by the way it enforces conformity, to engender and bring out the best in the eccentrics, renegades, and rebels who are convinced against all available evidence that they are on to something their contemporaries and nominal superiors are too ignorant to understand.

There is something almost mythic in the life stories of entrepreneurs. Invariably, they are outcasts who must go forth, alone, on missions of conquest and overcome daunting obstacles in their fight to fulfill their dreams. The corporate world, with its rigid hierarchical structure and its insistence on doing things as they have always been done, so frustrates them that it serves as the stick driving them out of the world of rules and stratifications into an arena where they must live as they live best—by their wits. Out on their own, in the world of venture capitalism, governed by the pitiless laws of profit and loss, entrepreneurs find themselves chasing an irresistible carrot: the chance to fulfill a compelling personal vision and to be amply rewarded in the bargain. Nowhere outside the United States does a society so carefully encourage and so richly reward its rebels.

It is to America's credit that entrepreneurism is as alive today as it was 200 years ago. Nations tend to govern more strictly as they grow older, and an entrepreneur by definition is an ungovernable dreamer. He or she is someone who is convinced that proven formulas and established practices are wrong. Like poets and religious zealots, entrepreneurs believe they are inspired, and the force of their conviction carries them beyond the reach of the uninspired.

The Pacific Northwest is currently enjoying a tremendous entrepreneurial renaissance, with self-made men and women enjoying success and prestige that, in some cases, exceeds that of the Henry Fords and John D. Rockefellers of American



NUERSHIP

THE MISSION NEVER ENDS

myth. From the immensely wealthy Bill Gates, founder of the fabled Microsoft Corporation, on down, the story is the same. Dissatisfied with orthodoxy, convinced of the wrongheadedness of the conventionally wise, they set out to prove wrong those who told them their dreams were foolish.

It's the Need to Change the World

To judge from conversations with local exemplars, the entrepreneur generally is distinguished from other workers and business people by three principal characteristics: a creative instinct that seeks its outlet in business activity, inexhaustible energy, and tremendous vision. The combination often seems to lead to frustration in standard business settings, and once the frustration gives way to resentment, the entrepreneur strikes out on his or her own.

One entrepreneur who never had the opportunity to be resentful is Bill Gates, chairman of Microsoft. The Northwest's most visible and successful entrepreneur, Gates got his start in junior high school, when the Mothers Club at Lakeside School bought time on a mainframe computer for students. Gates, who was 13, soon found himself writing programs and rooting through garbage at a Seattle computer company, seeking clues about how computers worked. When he was 14, he founded his first company, Traf-O-Data, which transcribed and computer analyzed the information gathered by those hose-and-box contraptions stretched across roadways to count vehicles.

Before he had finished high school, Gates began seeking, without success, an outlet in society for the creativity bottled up inside him. He took a $30,000 per year computer programming job for TRW during his senior year at Lakeside, but lasted only two months. He went from there to Harvard University, where he generally avoided his classes, made few friends, and distinguished himself at pinball, bridge, and poker.

Gates was scarcely into his second year at Harvard when inspiration seized him. He and friend Paul Allen saw a 1974 *Popular Electronics* article about the microcomputer—an Altair 8800—and realized immediately that it would be immensely popular and powerful. Gates dropped out of Harvard, wrote a version of BASIC (a widely used computer language) for the 8800, moved to Albuquerque to be near Altair's manufacturer, and founded Microsoft. The company was more or less a two-man operation until 1980, when it developed MS-DOS for IBM, which had been having trouble developing an operating system for its new personal computer. Gates's MS-DOS is now the world standard, earning him $200 million per year in royalty payments. And Microsoft has grown from a 38-person company that year to 5,000 today, generating $1 billion per year in revenues, and growing more powerful by the day. Gates himself is worth $2.5 billion and is indisputably the world's captain of the software industry.

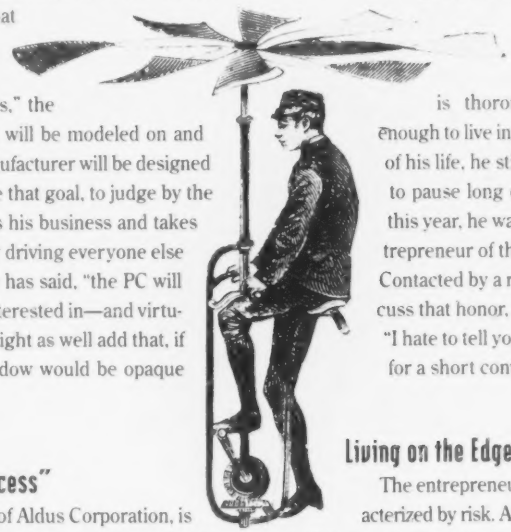
Gates's drive has taken his company to a level of power that now has inspired our society's highest and most dubious accolade: the lawsuit. Microsoft currently is being sued for copyright infringement by Apple, and Gates's company is under investigation by the FTC for possible restraint-of-trade violations that have victimized weaker, newer companies. But experts on the computer industry regard this as expected of a company of Microsoft's stature, and they believe that the firm will emerge from these travails stronger than ever. Gates's place in history is secure.

The generic software engineer-entrepreneur tends to drop out of the fast track soon after achieving success and financial security.

BY FRED MOODY

Steven Jobs of Apple and Gates's former partner Paul Allen are prime examples of people who discovered that building companies from nothing is more fun than running huge, successful ones, and both men have founded new, second-generation firms. Gates, however, has proven himself a ferocious competitor and empire-builder who is fueled not so much by the love of his work as by a determination to guide the world toward his vision of its future. This all-consuming vision is what is most noteworthy about Gates, once you dispense with the distractions of his outward success, celebrity, and position of power. It is typical of the modern entrepreneur, who tends to furnish himself with hedges against complacency by orienting toward an all-but-unattainable goal. Having realized more wealth than even he had ever dreamed of, Gates now thinks constantly about the way he wants to change the world.

He often talks of "making the personal computer a valuable tool on every desk and in every home. That goal hasn't been fully realized." He is determined to be the man behind the software industry's "standards," the software that every computer program will be modeled on and that every computer made by every manufacturer will be designed to employ. Some say that he will achieve that goal, to judge by the competitive, often ruthless way he runs his business and takes on competing upstart software firms, by driving everyone else out of the marketplace. "Ultimately," he has said, "the PC will be a window to everything people are interested in—and virtually everything we need to know." He might as well add that, if he is to realize his intentions, that window would be opaque without his software.



"There's No Greater Hook Than Success"

Seattle's Paul Brainerd, the founder of Aldus Corporation, is arguably the most prominent of the software entrepreneurs to emerge an electronic generation after Gates. After spending 11 years developing and implementing prepress newspaper publishing systems, Brainerd looked up one day and envisioned a world in which all page layout and design could be done not on a drafting board with knives, wax, paper, and type, but at a computer terminal. Determined to come up with a software tool that could produce layouts and designs on a personal computer, Brainerd in 1984 coined the preposterous term "desktop publishing" (a phrase greeted by almost universal derision and disbelief), rented an apartment in the Pike Place Market, cajoled four computer programmers to go to work for him, and started raising money. In 1985 he delivered a $695 program, called PageMaker, to Apple for use on its Macintosh computer, and set about persuading the publishing world that a computer could produce designs as graphically sophisticated as those done by hand, by artists.

Brainerd's vision has been more than realized. PageMaker is now available in 14 languages in more than 50 countries. Desktop publishing is now a $4 billion-per-year industry, and Aldus is growing at the rate of 150 percent per year. Its annual net income is now $15.5 million, and the company's work force has grown from 30 in 1984 to 800 today.

Aldus co-founder Jeremy Jaech, who since has left the company for more relaxed pastures, attributes Aldus's success to a combination of luck—principally in the form of the 1985 introduction of the laser printer, an unforeseen product that made Brainerd's vision technically feasible—and Brainerd's indefatigable drive. "Brainerd is the entrepreneurial driving force behind Aldus," Jaech says. "You have to be a total workaholic to do something like that. There's no greater hook than success to someone like him. When things are going well for you, you feel like you can't walk away from it. It's like winning at a blackjack table."

Brainerd, to all appearances, is thoroughly hooked. Although wealthy enough to live in comfort without working for the rest of his life, he still puts in 80-hour weeks and has yet to pause long enough to rest on his laurels. Early this year, he was designated Washington's 1990 Entrepreneur of the Year, but hardly seemed to notice. Contacted by a reporter who wanted Brainerd to discuss that honor, a harried company spokesman said, "I hate to tell you this, but he won't be available even for a short conversation for three weeks."

Living on the Edge

The entrepreneurial adventure is most strongly characterized by risk. A visionary who sees something no one else sees, then invests money in attaining that vision, lives on a razor-thin edge between success and failure until he either brings that vision to life or gives up on it. Living on that edge, to judge from the behavior and observations of entrepreneurs, provides more exhilaration than it does fear or stress, and those who succeed at first seem prone to try, try again.

Michael Darland, president and CEO of Redmond-based Digital Systems International and MIT's 1990 Entrepreneur of the Year, is a case in point. A bright young man newly returned from the Peace Corps in the mid-1970s, Darland found himself constantly frustrated by the lack of an outlet for his genius and by the lack of accountability in standard business. "It was 1975," he recalls, his voice growing angry at the memory. "I was frustrated that no action was taken on ideas I had that I thought were good. I didn't need that in my life."

In 1979 Darland started a company of his own with $15,000 and

one partner. He envisioned an era in which marketing could be done electronically, directly to individuals, rather than through the mass media, and he set about designing systems that allowed radio and cable-based computer modems to broadcast data to personal computers. With the personal computer industry still in its infancy and modems scarcely invented, Darland saw on-line home information systems for consumers lurking in the near future. With that in mind, he went on to develop Voicelink, an automatic telemarketing system that can hook virtually everyone with a telephone directly into a company's electronic sales force. Voicelink is now selling in the United States, Canada, Japan, and Europe, and generated $40 million in sales last year.

Digital Systems International now employs 300 people, has a $1 million-a-month payroll, and is growing at the rate of 40 percent per year. Yet Darland remembers vividly the day not so long ago when he "had to mortgage everything in sight and loan the company $300,000 just to keep it afloat. Many, many times we almost went under."

The risk of sinking, however, never deterred Darland. Instead, it seemed to energize him and force him to forge an abiding belief in himself. "It feels great when you're right, like hell when you're wrong," he says, with booming bluster, of his adventure. "The idea is to be right more than wrong." Gambling on himself, he says now, was a bet so safe that he enjoyed an unfair advantage over those who bet against him. "I like gambling," he says, "but this is the safest bet I know. Who knows me more than me? Who can take better care of me than me?"

To hear Darland talk, he is motivated less by the attainment of a single distant goal than by the entrepreneurial process of getting there. That undoubtedly is why he abandoned his first product and started over with Voicelink, and undoubtedly why he sees his career not as the fulfillment of a single vision but as a continuing move from one vision to the next, one critical moment to the next. Like all entrepreneurs who stay in the game after they have grown wealthy, Darland never has it made; rather, he is constantly making it. "Success for me," he says, "is myriad decisions. It is being opportunistic. I'm willing to listen and willing to change course. We decided that in this particular business we would have the best product at the highest price. Ours is a 60 to 80 percent higher price than our nearest competitor's. You're either the cheapest or the best, and in between you're nothing. And I don't want to be the cheapest." Now, 12 years after starting his business and seven years after attaining what most would call success, he feels as if he is just getting off the ground. "We're just starting to do some things that have never been done before," he says, "and I like that."

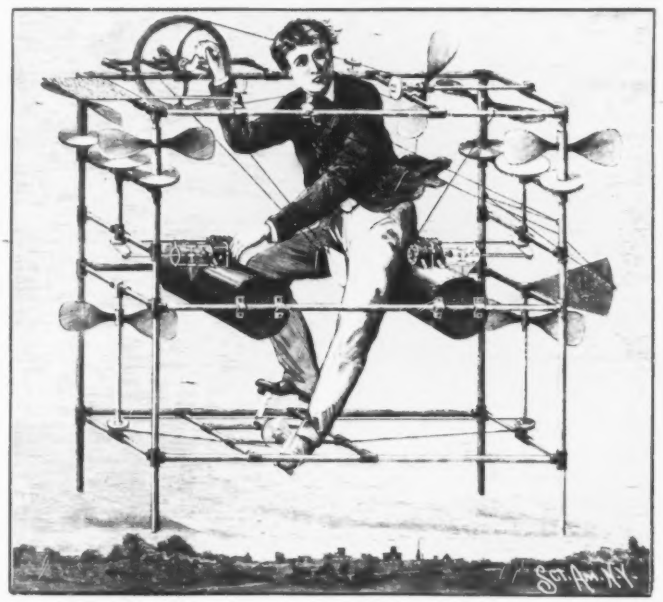
It is often said of those who drive themselves the way entrepreneurs do that their lives are stressful. Just as often, it is said that they are exhilarating. For Darland, the latter is clearly more true than the former. "Stressful?" he chortles, when asked about his life. "Not for me—although if you work for me, it is."

Falling Under the Spell

Steve Duzan, president, chairman, and CEO of Immunex, a local biotechnology firm, is similarly exuberant—if given to considerably less chest-beating. After spending a full 10 years developing a single product, Duzan started actual sales only last March. Immunex's product, Lukine, is a drug that stimulates the production of white blood cells, restoring immune responses in cancer patients. Fueled by the potential of Lukine, Duzan's company has grown on investors' cash to a 470-employee firm occupying more than 12 acres in manufacturing, research, and administration buildings, and running up $65 million per year in manufacturing costs.

Where other entrepreneurs succeed by riding a product's sales performance toward their vision, Duzan has had to succeed by virtue of his powers of persuasion alone. "In 1986-87," he recalls, "it became clear that we had a good product development going, but a couple of our capital partners weren't coming through. That had the potential to take us under." Refusing to let his dream die, Duzan went out and sold his vision all over again, raising $250 million in equity capital.

Although insisting that "vision is a corny word," Duzan believes that entrepreneurs are gifted with an ability to see the future, and

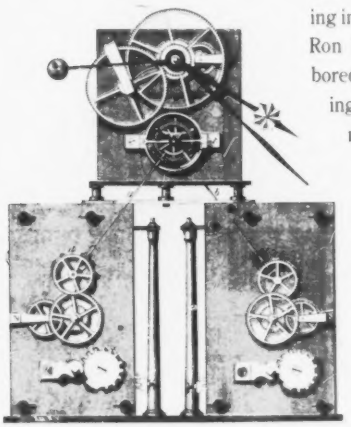


to make others see it, with compelling clarity. "I think it's an innate ability to see results over time, in a way other people can't," he says. "Real entrepreneurs see someone using a product literally out in the future, as if it's been created and marketed. We saw cancer patients in the future being treated in a whole new way." The entrepreneurial vision is so persuasive, Duzan says, that those under its spell are incapable of imagining failure. "I don't think entrepreneurs really sense this risk that other people see," he says. "I've never thought of this in terms of the risk. I knew the risk was there, but it was kind of like flying in an airplane. You assume the plane will work. On a day-to-day basis, entrepreneurs think more about success."

Duzan is exhilarated by being out on the edge. "It's always exciting to be out there where no one has ever been," he says. Ultimately, entrepreneurship is a game, in which the player is deliciously imperiled by "the pressure of dealing in high-stakes business." Such is the nature of the adventure, though, that success sometimes seems even more perilous. "The potential market," Duzan says, "is so huge that you lose your equilibrium."

The Power of Boredom

Often, an entrepreneurial dream can be fueled and attained by what seems an almost alarmingly simple vision. Witness the story of Elgin Syferd, an advertising firm that grew in 10 years from a conversation over drinks between two bored ad and public relations executives into an 85-person firm with $50 million per year in billings.



"Dave [Syferd] didn't like working in a corporate environment," Ron Elgin recalls, "and I was bored with conventional advertising. One night, after way too many drinks, we said, 'We ought to start our own agency.' I had a good job and was making a lot of money, Seattle was in a recession, and there were way too many agencies. But . . . ."

But never underestimate the power of boredom. Elgin and Syferd were convinced they could try something that had never been tried before. The something in question was a "total communications agency": one offering the services of both an ad agency and a public relations firm. "People have a tendency to solve *advertising problems* with *advertising solutions*, when the answer may be public relations, advertising, or a combination of the two," Elgin says. His idea, elementary as it sounds now, was to offer clients a strategic approach to enhancing or cleaning up their images or the images of their products. "Clients were starting to look for one-stop shopping," he says. "We decided we could niche ourselves by doing that."

Once niched, the pair decided to set for themselves an arbitrary, impossible goal: to become a "$100 million agency." Ten years later, their formula now widely imitated, their business secure, the two keep themselves on edge by insisting that they stay on track toward that goal. Without it, they would lapse into the same complacency and boredom that drove them out of their previous jobs.

While some entrepreneurs seem not to feel stress and others find ways to cope with it, Elgin and Syferd seem to thrive on it. Stress is the proof that they are still producing and advancing. Instead of making them tense, it makes them energetic and proud. "We want to be the biggest and the best," Elgin says. "In order to do that, you have to do the best work. And we're in a very high-stress business. I can lie awake nights wondering whether we're going to be half our size or double our size the next day. You deal with it by hiring people who are very up and positive, people who are looking for the next challenge to overcome. But more important, we advocate the 'work hard, play hard' ethic. When one of us reaches his stress point, we assume everyone else has, too. So we go out and declare a party."

When Success Appears Imminent, Redefine Success

Several common themes are woven consistently enough through these stories to draw a composite picture of the garden-variety entrepreneur. All are adventurous in spirit, disdainful of succeeding where others before them have already succeeded. All want to play by rules they have written themselves. It is not enough to win at a familiar game—to be fulfilled, they must design the game, write the rules, win, design a new game, write new rules, win . . . . While all entrepreneurs set out to succeed, it seems not to be the prospect of success that drives them so much as the sheer joy of working toward success. And success, once attained, becomes redefined as another step on the road to success. What keeps the entrepreneur going and striving and creating is the notion that success is always moving at a slightly faster clip than the pace the entrepreneur sets for himself.

Like kids competing in a video game, where victory leads only to another level of competition, these competitors are driven not to win but simply to compete some more. To accrue wealth by working at tasks that offer proven, predictable prospects, is, in Elgin's words, to have "a golden handcuff job." Far better, these entrepreneurs would say, to be shackled to a roller coaster.

Fred Moody is a staff writer for the Seattle Weekly.

REGION WATCH

Economic Developments in the Pacific Northwest

As the national economy continues in recession, the questions persist: will the Pacific Northwest enter the downturn and, if so, when? Most forecasters, including our own panel members, expect that the region will skirt the recession. There are indications, however, that the Pacific Northwest has entered into a "growth recession" (an oxymoron to describe a rate of growth that falls but doesn't become negative). Regional nonagricultural employment posted only a slight gain during the first quarter, down from 1990's robust growth rates. The region's unemployment rate in March was 6.5 percent, nearly a full point higher than a year ago, but still 0.6 percent lower than the national average. Jobless rates have been lower in the region than in the nation for more than six months—a remarkable and rare achievement for the Pacific Northwest.

The winds of caution

The winds of caution, however, have picked up in the Northwest, and they will undoubtedly affect the region's future economic performance. The health of our natural resource industries appears to be fading, mineral prices in the region's mining sectors are falling, and the outlook for agriculture is decidedly mixed. Wheat growers, for instance, are seeing higher production costs (due in part to winterkill) and lower prices, and dairy farmers face the double whammy of lower prices and rising feed costs. Parts of the Northwest, principally eastern Oregon and southern Idaho, are in the midst of a drought. Unlike 1988's dry spell, which was actually a boon for regional producers (prices rose more than yields fell), this localized drought is less likely to result in windfall gains.

Prospects for the region's lumber and wood products industry look bleak. Although the housing sector has already hit bottom and is inching upward, housing starts are substantially below last year's levels and the recovery will be a long uphill one. On the supply side, regional wood products firms have been confronted with a stark reality—a substantially reduced harvest on federal lands. Recently, the U.S. Fish and Wildlife Service proposed that 11.6 million acres of timberland (8.6 million public, 3.0 million private) in Washington, Oregon, and northern California be set aside as habitat for the northern spotted owl. Raw material prices will rise as the available timber from Northwest forests dwindles, and regional producers will find themselves at a serious competitive disadvantage in the national market.

Recent reports document the economic importance of the Northwest's forest products industry. The slumping housing market and the spotted owl conservation plan, these reports state, will result in yet another severe industry recession, and well over half of the wood products jobs in Washington and Oregon could be lost.

Not surprisingly, such problems in wood products send an economic chill down the region's backbone, lowering the rate of economic growth in both states. Our panelists have factored timber industry losses into their forecasts for the region (Table 1). In particular, they anticipate that manufacturing employment in Oregon and Washington will contract in 1991. Nonagricultural employment, however, will continue to grow for each state, based on the continued strength of the service and trade sectors.

Table 1: Panel Forecasts
median annual percent changes

	Real Gross National Product	Implicit Price Deflator
1990 actual	0.9	4.1
1991	0.5	3.8
1992	2.7	3.4

	Nominal Personal Income	Non-agricultural Employment	Manufacturing Employment
WASHINGTON			
1990	9.0*	4.9	2.0
1991	6.0	2.3	-0.5
1992	7.0	2.3	1.5
OREGON			
1990	8.0*	3.2	1.4
1991	5.9	1.2	-2.0
1992	7.1	2.5	1.2
IDAHO			
1990	9.4*	4.8	3.5
1991	7.4	4.0	1.2
1992	7.6	4.2	2.2

*preliminary estimates

How long will the national recession last? Most of our forecast panel members are looking for an economic upturn before Labor Day. The factors most responsible for the eventual recovery, they say, are the easing of monetary policy, prospects for lower (and stable) oil prices, increased exports, and tighter inventory controls.

The national economy, often viewed in monolithic terms, is actually a mosaic of individual states and regions. Economic shocks hit different regions at different times, causing variations in both the timing and the duration of slumps. Some shocks, for instance, roll into enough regions to create a national recession, while others remain contained to a specific area. In the past, have recessions in Pacific Northwest states coincided with or run counter to national downturns? What are their patterns of entry, duration, and exit?

Roll on, recession, roll on

We looked at episodes of state employment fluctuations to determine if they could offer a clue into national and regional economic turning points. We classified each of the three states (from 1953 on) according to its monthly employment growth or decline, as measured by year-to-year percentage changes in total nonagricultural employment. The Federal Reserve Bank of Cleveland, which first used this approach, found that a monthly plot of the states that failed to show year-to-year employment growth closely tracks the evidence of national downturns. For each of the seven

national recessions since 1950, the pattern is as follows: sometime around the peak of the business cycle, one or two states slip into a downturn. Within a couple of months, these states are joined by others, so that by the midway point between peak and trough, half of the states that suffer employment losses have already done so. Once a state's employment direction changes, it usually continues on that path for several months.

Although many states—including those in the Northwest—participated in each previous recession, no single state or region ushered in every national downturn. State employment cycles are a combination of cyclical and secular trends. Changes in the business cycle are caused by temporary factors, such as oil shocks, inventory excesses, and technology and demand shocks; secular trends are the structural changes that exist across industries and the shifts in comparative advantage among regions. A state's susceptibility to economic shocks depends on the composition and health of its industries. For instance, durable manufacturing has historically exhibited wide swings in performance, due to the nature of its products and its heavy reliance on energy inputs. States, like Oregon and Washington, with a higher than average percentage of workers in durable manufacturing, sustained larger employment losses during the 1980 and 1981-82 recessions.

According to our study of monthly data, employment declines in the Northwest generally followed the peak for most national business cycles, lasted longer, and were more severe. Until the recessions of the early 1980s, Idaho appeared to be the least affected by national downturns and even avoided the 1969-70 and 1973-75 recessions. During the two 1980s downturns, the nation entered a period of employment decline before each of the three states did so. But while the United States as a whole had a combined average length of employment loss of 25 months, the average in the Northwest was 33 months.

In this current recession, there has been a slowing of the overall rate of growth in the Pacific Northwest, but the region has not yet entered the national downturn. Given the condition of the region's most important durable goods industry (wood products), however, it may be only a matter of months before Oregon slips into recession.

Population counts

The U.S. Bureau of the Census recently released the decennial population counts by jurisdiction for 1990. While the U.S. population during the 1980s increased by 9.8 percent, the Pacific Northwest grew by more than 13 percent (Table 2). When you look at the trend since 1950, the gains are even more dramatic; the nation's population increased by two-thirds and the region's almost doubled.

The Bureau of the Census emphasizes that these population counts are only preliminary; they may be revised by the Secretary of Commerce on or before July 15, 1991 to correct for over- or undercounting. But these figures have enormous importance: they will eventually be used to determine representation in Congress, state legislative and local government redistricting, and levels of federal funding for education, transportation, and block grants to cities and counties.

Much of the Northwest's increase was fueled by robust growth in Washington, which was one of the fastest growing states in the nation. During the 1980s, the state's population increased by 17.8 percent, compared with gains of 8 percent and 6.6 percent in Oregon and Idaho, respectively.

In Washington and Oregon, most of the population growth occurred west of the Cascades, in the urban areas along the Interstate 5 corridor. Communities within 20 miles—as the crow flies—of Interstate 5 accounted for nearly half of the two states' total population gain during the decade. While Seattle and Portland grew only modestly, their suburbs experienced frenetic activity. Snohomish County, north of Seattle, grew by more than 37 percent, and Kirkland, an eastside Seattle suburb, doubled in size. Portland's suburbs of Beaverton, Tigard, Hillsboro, and Tualatin registered growth rates between 36 percent and more than 100 percent.

While the big counties in the Pacific Northwest got bigger, nonmetropolitan counties registered only slight gains—and more than a third of all rural counties lost population during the 1980s. Most of these counties have towns with less than 10,000 people, are relatively isolated, and are dependent on such natural resource-based industries as agriculture, forestry, and mining. Counties with shrinking populations face deteriorating economic opportunities, decaying infrastructure, and dwindling tax bases. Rural incorporated cities (under 2,500 people) fared even worse in the census count—more than two-thirds of them lost population during the 1980s. The notable exceptions—Idaho's Blaine County (up 37.7 percent), Washington's San Juan County (28 percent), and Oregon's Jefferson County (17.9 percent)—benefited from a surge of retired newcomers and a booming recreation industry.

Table 2: Population Change in the Pacific Northwest, 1980–1990

	POPULATION 1980	POPULATION 1990	PERCENT CHANGE
WASHINGTON	4,132,353	4,866,692	17.8
Metropolitan Counties	3,322,441	3,976,186	19.7
Nonmetropolitan Counties	809,912	890,506	10.0
OREGON	2,633,105	2,842,231	7.9
Metropolitan Counties	1,763,276	1,947,167	10.4
Nonmetropolitan Counties	869,829	895,064	2.9
IDAHO	943,935	1,006,749	6.7
Metropolitan Counties	173,036	205,775	18.9
Nonmetropolitan Counties	770,899	800,974	3.9
PACIFIC NORTHWEST	7,709,393	8,715,672	13.1
Metropolitan	5,258,753	6,129,128	16.6
Nonmetropolitan	2,450,640	2,586,544	5.6
Interstate 5 Corridor	4,562,172	5,325,218	16.7

SOURCE: U.S. Bureau of the Census

The Savings and Loan Crisis: Can the Northwest Avoid Its Consequences?

Frank Capra's classic film, *It's a Wonderful Life*, presents the noble image of a savings and loan industry that exists for the express purpose of helping families attain one facet of the American dream: home ownership. The thrift industry, after being battered for years by volatile interest rates, stripped of its capital by unscrupulous or inept managers, crippled by a weakening economy, and supervised by regulatory agencies hampered by manpower shortages, funding deficiencies, and political pressures, now possesses an image that not even an angel could redeem. Its reputation as a willing creditor of home mortgages has been sullied by its perception as an impoverished debtor of the American taxpayer.

Last year 212 savings and loans in the United States closed their doors, and 46 more merged with other institutions. By year's end, an additional 56 thrifts were awaiting closure or merger. The assets of these 314 institutions, which represent 10 percent of the number of savings and loans open in January 1990, totaled $112.7 billion.

As of March 1991, 369 thrifts remain in danger of failing, plagued by poor earnings and low capital, and another 194 S&Ls—centered, for the most part, in California, Texas, Florida, Illinois, and New Jersey—are expected to close their doors. The price tag associated with resolving the savings and loan crisis ranges from $136 billion to $500 billion. Although the costs may be apportioned equally among America's taxpaying citizenry, the visible manifestations of the crisis have not been shared. A few areas of the nation, including the Pacific Northwest, have, by and large, escaped the onslaught of closures and forced mergers.

How could a crisis of such monumental proportion occur? What is being done to resolve the situation and prevent its reoccurrence? How has the thrift industry in the Pacific Northwest fared? What will be the economic impact of the savings and loan industry's bailout?

Troubled Thrifts

In the early 1980s, the Federal Reserve instituted a tight monetary program to combat the high inflation rates that were afflicting the economy. The result was an increase in interest rates, and investors soon noted that nonregulated instruments of deposit, such as money market funds, were paying higher interest rates than S&L deposit accounts. Because savings and loans were precluded by regulation from offering these same options and had an interest rate cap of 5.5 percent, they watched helplessly as depositors withdrew their money for reinvestment elsewhere.

By 1982 Congress had abolished the interest rate cap, freeing S&Ls to compete in such markets as commercial and consumer loans, and permitting them to offer variable-rate mortgages. Though these changes allowed the industry to compete on a more equal footing, they did little to help it overcome its root problem.

Economist Robert Litan of the Brookings Institution states that the thrift industry's structure was flawed. The bulk of an S&L's assets, he explained, was composed of long-term, fixed-rate mortgages; its liabilities were short-term deposit accounts. Savings and loans made a profit by maintaining a spread between the interest earned on the assets and the interest paid on the liabilities. With the advent of higher interest rates and the removal of interest rate limitations, thrifts saw this spread drop to zero and then become negative. To attract deposits, they had to pay market rates, but their mortgage earning rates could not be adjusted. In 1981, Litan noted, 85 percent of the nation's thrifts, which held 92 percent of the industry's assets, reported a loss. By the end of 1981, higher interest rates had so devalued S&L assets that the industry had a negative net worth of $100 billion.

To increase earnings and build capital, many thrifts took advantage of the revised regulations and entered new, but riskier, markets. They began issuing commercial real estate and consumer loans, and purchased what their annual reports soothingly called high-yield bonds—which we came to know as junk bonds.

Many savings and loans owners and managers, especially those from troubled thrifts, had reason to ignore the added risk: the safety net of deposit insurance. The federal government explicitly guaranteed deposits up to $100,000 and had, by precedent, insured those over the $100,000 limit. Even if the commercial and consumer loans defaulted and the junk bonds turned to ash, depositors would lose nothing.

Fraud also played a part in the S&L crisis, and Harris Weinstein, chief counsel for the Office of Thrift Supervision, estimates that 40 to 50 percent of the institutions that went into receivership have suffered from an officer's sustained breach of fiduciary duty or criminal behavior. S&L managers wrote themselves and their confidants loans with liberal terms, knowing that many of these debts would never be repaid.

The agencies that supervised the thrift industry—the Federal Home Loan Bank (FHLB) and the Federal Savings and Loan Insurance Corporation (FSLIC) were unable or unwilling to take steps that might have reduced the extent of the crisis. In *The Public Interest*, George Bentson and George Kaufman wrote that the regulators were not prepared for the increases in S&L risk taking and insolvencies. The sudden increase in allowable activities found the agencies greatly understaffed and underorganized.

Political pressure also sidetracked proper regulatory intervention. In the mid-1980s, Congress, the Reagan administration, and the regulatory bodies, in an effort to protect constituent institutions and re-

duce the budget deficit, adhered to a policy of forbearance. With interest rates and the economy stabilizing, many public officials felt that insolvent S&Ls could recover if they were given enough time, and recovery was certainly preferable to adding the costs associated with closing or merging failed thrifts to the already swollen budget deficit. Most technically insolvent savings and loan institutions were allowed to continue functioning.

As the 1980s drew to an end, many regions of the country began to suffer higher unemployment, increased business failures, and lower real estate values. Regional S&Ls reported a slowdown in deposit growth and loan demand, an increased number of nonperforming loans, and further devaluation of their assets. Those institutions teetering on the edge of insolvency toppled over, and the FSLIC didn't have the necessary funds to cover the insured deposits.

The Rescue

In August 1989, the Financial Institutions Reform, Recovery, and Enforcement Act (FIRREA) became law. The act set out guidelines for restructuring the savings and loan industry's asset composition, capital requirements, and deposit insurance policy, for promoting industry recovery by closing, merging, or recapitalizing ailing thrifts, and for strengthening supervisory activities to prevent future crises. S&Ls, for example, are now required to hold at least 70 percent of their assets in housing-related loans. And institutions are limited in the amount of nontraditional assets (commercial and consumer loans and direct investments) they can own and how much they can loan to an individual borrower.

The act stresses capitalization, for capital—specifically, shareholder equity—represents the first defense against loss. The revised regulations dictate that each thrift must maintain specific amounts of tangible capital, core capital, and risk-adjusted capital.

- Tangible capital—stockholder equity, plus retained earnings—must equal or exceed 1.5 percent of an S&L's tangible assets. As defined by generally accepted accounting principles (GAAP), tangible assets are total assets minus goodwill, which is a recognizable but uncertain resource, such as standing in the community or the value of being the only S&L in a particular area. Goodwill offers no financial protection against loss.
- Core capital—tangible capital plus qualifying supervisory goodwill—must equal or exceed 3 percent of tangible assets. Supervisory goodwill is the premium a thrift pays for an insolvent or problem institution in a merger or acquisition.
- As of January 1, 1990, risk-adjusted capital—core plus supplementary capital, such as subordinated debt or preferred stock—must equal or exceed 7.2 percent of total assets, multiplied by the appropriate risk weight set forth in the regulations. If, for example, two thrifts have identical GAAP total asset values, but one has a significantly higher percentage of risky assets, it would be required to maintain a larger dollar amount of total capital to meet the 7.2 percent rule.

The act also stipulates that S&Ls pay increased premiums to the Savings Association Insurance Fund (SAIF), which has replaced the FSLIC. This premium increase will revitalize the financially exhausted deposit insurance system and place some of the cost for the cleanup on the industry itself. In 1991 premiums increased from 20.8 cents for every $100 of deposits to 23 cents. Premiums are scheduled to drop down to 18 cents per $100 of deposits in 1994 and to 15 cents in 1998.

In addition to FIRREA's mandates, the Bush administration's proposed bank reform legislation will curb the amount depositors can recover from the insurance fund. To date, depositors whose accounts exceeded $100,000 per institution have been reimbursed. If this new legislation is enacted, a single depositor will find that, regardless of the size, number, or the location of his or her accounts, the amount of compensation from the insurance fund will be strictly limited.

To supervise the industry and determine which institutions should be closed or merged, the Reform, Recovery, and Enforcement Act created the Office of Thrift Supervision (OTS). This agency can restrict insured deposit growth, control the number and size of new loans, and supervise the payment of dividends until an institution meets its capital requirements. If it deems the action necessary, the OTS can declare an S&L insolvent and arrange a merger or place the bank under the stewardship of the Resolution Trust Corporation. The RTC is responsible for closing and liquidating the assets of the thrifts that fail and cannot be sold or merged. The proceeds of these liquidations are used to reimburse the depositors.

The Northwest's Thrifts

The Pacific Northwest has escaped the brunt of the thrift crisis. Elliott Knutson, the chairman and chief executive officer of Washington Federal Savings and Loan, states that the region's healthy economy is the primary reason for the soundness of its S&Ls. Employment and population growth help keep residential real estate demand strong, and that strength translates into a vigorous market for home mortgages, the S&L industry's primary source of profit.

Betty Reed, supervisor in the Savings and Loan Division for the State of Washington, has characterized the region's management practices as "back-to-the-basics" banking. The thrifts that are in the best condition, she said, are those that concentrated on home mortgages while avoiding out-of-state investments and large commercial real estate deals.

Despite the healthy economy and basic managerial practices, however, the region's thrift industry did suffer casualties. Between 1980 and 1990, 30 thrifts in Washington, 24 in Oregon, and 7 in Idaho were closed or merged. Benjamin Franklin Savings and Loan, with assets totaling more than $5 billion, was the largest institution to fail. The Portland-based S&L was taken over by the RTC in February 1990 and later merged with Bank of America Federal Savings Bank. According to Resolution Trust's Jan Jankowski, the cost of the Benjamin Franklin bailout was approximately $105 million. At this time, only one institution, Family Savings and Loan of Seattle, remains under the RTC's control, although the Office of Thrift Supervision, as of March 15, has listed one thrift in Oregon and three in Washington as troubled. Four

additional S&Ls are expected to fail.

Betty Reed, like many others, feels that the cost of resolving these failed institutions could have been avoided had the insolvent thrifts been dealt with more quickly. She acknowledges that the FSLIC preferred to merge insolvent thrifts with healthier institutions because the agency lacked the funds necessary to pay depositors. In the time it took to find willing buyers, however, additional losses occurred. Reed cites the example of Community First Federal Savings of Vancouver, Washington, which was tangibly insolvent for five years (at a cost of more than $120 million) before it was acquired in 1988.

Because the cost of the thrift failure will continue to accumulate until it is resolved, Congress and the administration will, through the budgetary process, dictate its duration.

Even considering these failures, the Northwest's thrift industry is strong. In terms of capital requirements, for example, S&Ls in both Washington and Idaho exceed the tangible capital requirement of 1.5 percent. Risk-adjusted capital ratios in both states also surpass the required 7.2 percent.

All three states have sufficient levels of tangible capital to absorb nonperforming loans; U.S. savings and loans, on average, do not. According to the *Sheshunoff S&L Quarterly Ratings and Analysis*, Northwest states have lower averages of nonperforming loans. Washington's nonperformance rate was 1.4 percent, Oregon 1.2 percent, and Idaho 1.5 percent. The national average was 3.8 percent, and New Mexico and Arizona, at the high end of the range, had nonperformance rates of 17.9 percent and 13.0 percent, respectively.

The Northwest thrift industry also outperformed the national average in the percent of loans deemed uncollectible. S&Ls in Washington and Idaho charged off only 0.07 percent of their average total loans, Oregon wrote off 0.2 percent. The national average was 0.5 percent, and Oklahoma and Wyoming had the highest levels of uncollectible loans—2.19 percent and 1.54 percent, respectively.

The Nation's Largest Corporate Welfare Program?

The full effect of the S&L crisis cannot be measured simply by tallying the number of failures or by comparing financial ratios. Its impact on the availability of credit and interregional wealth transfers could play a major role—depending on whose argument you agree with—in the region's future economic growth.

Mary Cooper, in *S&L Bailout: Assessing the Impact*, states that the bailout is causing severe restrictions in the availability of credit in some markets. The "loans to one borrower rule," which limits the amount an S&L can lend an individual borrower to 15 percent of the institution's cash on hand, is hampering the ability of some small thrifts to loan to their single, relatively big business clients. These customers, who include real estate developers and builders, are no longer able to get loans at a time when many are facing the toughest business conditions in years.

Washington Federal's Knutson agrees with Cooper's statement that the Federal Reserve Board is pessimistic in its assessment of credit availability, and that small banks, those with assets under $10 billion, have tightened credit in response to regulatory pressure. But he says that the "credit crunch" the Fed believes is taking place in the thrift industry does not exist. Knutson maintains that the inability of some borrowers to obtain funds is the result of regular economic cycles, not a lack of available credit.

Edward Hill, in *The S&L Bailout: Some States Gain, Many More Lose*, calls the bailout the largest corporate welfare program since the Great Depression. As a result of the government's intervention, he said, individual and corporate taxpayers in 37 states and the District of Columbia will be shipping vast sums of money to the 13 of the hardest-hit states for the next 30 years. This injection of cash into large numbers of problem thrifts will help hold off regional recessions, Hill says, but the states with better-managed S&Ls will foot the bill.

According to Hill, Washington, Oregon, and Idaho will be exporting capital to other regions. Using an estimated bailout cost of $149 billion, he calculates that every man, woman, and child in the State of Washington will transfer $580 to other parts of the nation. In Oregon the payment will total $485, in Idaho $338.

Frederick Furlong, an economist at the Federal Reserve Bank of San Francisco, disagrees with Hill's contention, asserting that the economies in regions with few thrift insolvencies will be hurt only if taxes are raised. The bailout, Furlong states, will be financed with debt rather than taxes, and this debt will fall on the shoulders of all future taxpayers, which makes the transfer of wealth intergenerational, not interregional. Current economic growth in regions with few thrift failures is not likely to suffer, but future growth throughout the nation, he believes, will be slower than it would have been without the bailout.

A Policy of Procrastination

The full economic impact of the S&L crisis will depend on the near-term response of the government and the nation's financial sector. According to the current plan, the crisis' resolution will be funded by debt, the costs of which will be borne by the entire nation at some time in the future. Because the cost of the thrift failure will continue to accumulate until it is resolved, Congress and the administration will, through the budgetary process, dictate its duration.

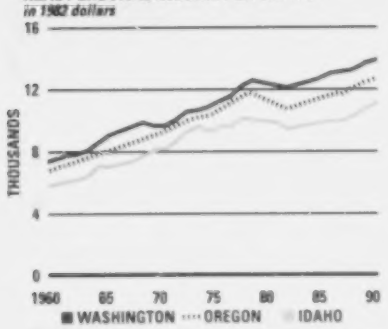
The financial sector, through the availability of credit, will also determine the amount of damage done to the Pacific Northwest's economy. Small businesses, the region's primary employer, would be the first to feel a credit crunch. A reduction in

(continued on page 17)

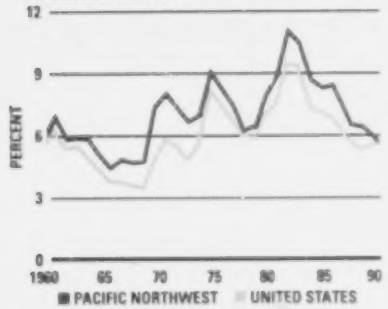
REGION WATCH

Pacific Northwest Annual Economic Indicators

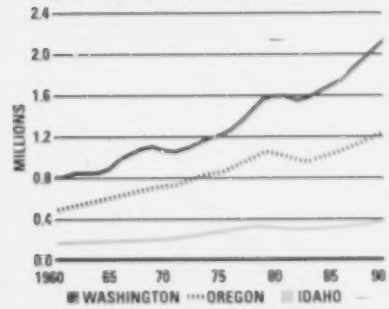
REAL PERSONAL INCOME PER CAPITA
in 1982 dollars



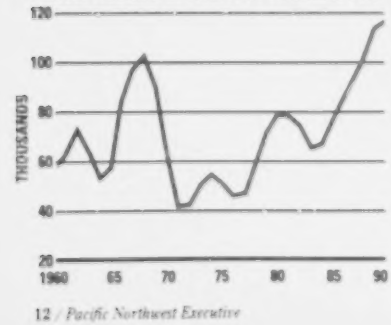
UNEMPLOYMENT RATE



NONAGRICULTURAL EMPLOYMENT



AEROSPACE EMPLOYMENT IN WASHINGTON



POPULATION [A, 1, 2]
in thousands

YEAR	WA	OR	ID
1960	2,853	1,769	667
1965	2,867	1,937	686
1970	3,413	2,092	713
1975	3,621	2,330	832
1980	4,132	2,633	944
1985	4,407	2,689	1,005
1987	4,542	2,723	1,000
1988	4,652	2,768	1,003
1989	4,761	2,820	1,014
1990	4,867	2,842	1,007

PERSONAL INCOME [B, 2]
in millions $

WA	OR	ID
6,914	4,019	1,263
9,094	5,497	1,736
14,234	8,169	2,486
23,258	14,072	4,548
44,562	26,063	8,128
62,032	33,951	10,869
70,563	37,721	11,841
76,299	41,175	12,750
84,167	45,129	13,953
91,774	48,762	15,262

FARM INCOME [B, 2]
in millions $

WA	OR	ID
261	180	155
287	185	237
361	235	277
943	431	416
1,007	582	512
1,025	626	491
1,455	843	720
1,662	1,200	815
1,724	1,162	948
1,864	1,108	1,033

UNEMPLOYMENT RATE [E, 2, 4]
percent of labor force

YEAR	WA	OR	ID
1960	6.3	4.9	6.0
1965	5.4	4.5	4.8
1970	9.1	7.1	5.8
1975	9.5	10.6	7.3
1980	7.9	8.3	7.9
1985	8.1	8.8	7.9
1987	7.6	6.2	8.1
1988	6.2	5.8	5.9
1989	6.2	5.4	5.1
1990	4.9	5.5	5.8

TOTAL EMPLOYMENT [E, 2, 4]
in thousands

WA	OR	ID
1,020	682	264
1,107	776	267
1,281	803	281
1,412	929	342
1,828	1,189	395
1,921	1,202	429
2,085	1,302	435
2,173	1,343	451
2,300	1,391	464
2,381	1,409	467

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT [E, 2]
in thousands

WA	OR	ID
812.6	509.2	155.2
896.6	607.4	177.6
1,080.0	709.2	209.3
1,225.7	837.4	273.0
1,608.3	1,044.6	330.0
1,710.4	1,030.0	335.9
1,851.8	1,100.1	333.5
1,943.2	1,156.0	347.4
2,052.5	1,209.4	366.1
2,152.1	1,248.1	383.6

MANUFACTURING EMPLOYMENT [E, 2]
in thousands

YEAR	WA	OR	ID
1960	216.6	144.4	28.5
1965	227.0	158.2	33.3
1970	239.4	172.3	40.4
1975	244.0	182.1	47.8
1980	308.7	215.1	53.3
1985	295.5	199.3	54.6
1987	318.4	206.2	54.1
1988	341.8	214.2	58.1
1989	362.6	218.5	60.6
1990	369.9	218.8	62.9

FOOD AND KINDRED PRODUCTS EMPLOYMENT [E, 2]
in thousands

WA	OR	ID
27.1	21.1	11.5
26.2	20.9	11.9
28.9	24.0	15.3
29.1	22.4	16.0
32.0	24.3	17.0
31.1	23.8	16.6
32.3	24.0	16.1
32.6	23.7	17.3
35.9	23.6	17.0
37.6	24.6	16.6

AEROSPACE EMPLOYMENT [E, 2]
in thousands

WA
57.8
57.0
61.5
50.4
79.6
76.0
92.9
101.0
113.7
116.5

LUMBER AND WOOD PRODUCTS EMPLOYMENT [E, 2]
in thousands

YEAR	WA	OR	ID
1960	44.4	71.9	9.2
1965	46.9	74.2	12.1
1970	42.2	66.8	12.8
1975	47.2	69.9	15.7
1980	47.0	69.5	15.4
1985	38.3	63.6	13.5
1987	40.4	68.0	13.4
1988	41.7	68.8	14.0
1989	41.2	66.9	14.7
1990	40.3	63.6	14.6

PAPER EMPLOYMENT [E, 2]
in thousands

WA	OR
18.0	7.3
19.8	7.5
19.8	9.4
16.4	9.6
17.6	10.4
16.7	9.1
16.6	9.2
17.1	8.6
18.0	9.1
18.1	9.1

CONSTRUCTION EMPLOYMENT [E, 2, 4]
in thousands

WA	OR	ID
44.6	26.1	9.6
46.4	26.1	9.6
53.3	29.5	10.9
59.5	35.3	16.1
92.6	66.5	15.8
80.6	33.1	15.1
88.9	35.3	13.7
91.6	39.9	14.2
107.1	45.2	16.1
119.0	52.5	18.5

CONSTRUCTION CONTRACTS[C]
in millions $

YEAR	WA	OR	ID
1960	632.3	364.6	115.4
1965	1,066.7	585.7	186.8
1970	1,478.2	634.3	197.4
1975	2,019.3	1,035.9	398.6
1980	4,795.1	1,926.1	634.5
1985	4,409.1	1,603.8	758.0
1987	5,231.6	1,831.7	637.1
1988	5,056.8	2,160.6	849.4
1989	5,401.7	2,544.6	774.9
1990	5,998.0	3,113.9	990.6

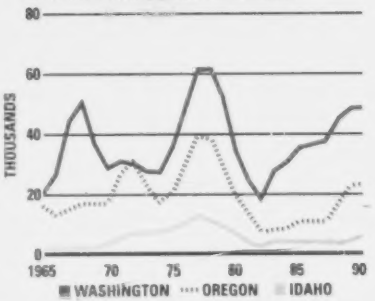
NEW HOUSING UNITS AUTHORIZED[A,2]
in number of permits

WA	OR	ID
NA	NA	NA
20,131	15,610	1,846
28,262	16,980	3,565
35,209	20,091	8,172
33,375	19,480	5,795
34,293	11,019	4,190
37,142	11,570	3,235
45,055	14,049	3,211
48,210	23,089	4,776
48,447	22,858	5,703

AVERAGE LUMBER PRICE[D,3]
1000 board ft.

PNW
$75.01
76.09
91.08
154.63
267.59
214.49
233.54
251.53
277.37
264.50

NEW HOUSING UNITS AUTHORIZED



PLYWOOD PRODUCTION[F,2,5]
in million board ft.

YEAR	WA & OR
1960	6,535
1965	9,720
1970	8,663
1975	7,722
1980	6,786
1985	8,440
1987	10,093
1988	9,437
1989	8,237
1990	7,217

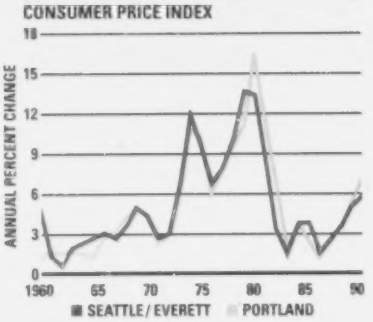
LUMBER PRODUCTION[D,2]
in million board ft.

WA	OR	ID
3,377	7,402	1,654
3,548	7,580	1,750
3,189	6,580	1,631
3,104	6,342	1,631
3,161	5,784	1,391
3,419	7,211	1,676
4,645	8,846	2,016
4,408	8,601	2,015
4,274	8,512	2,133
3,915	7,790	1,960

WOOD PULP PRODUCTION[A]
in thousand short tons

WA	OR
NA	NA
NA	NA
3,348	2,643
3,585	2,480
3,519	3,787
4,101	2,925
4,531	3,106
4,597	3,102
4,628	3,090
NA	NA

CONSUMER PRICE INDEX



ALUMINUM PRODUCTION[H,6]
in thousand tons

YEAR	PNW
1960	527.3
1965	796.5
1970	1,390.0
1975	1,411.0
1980	1,574.4
1985	1,356.4
1987	1,382.7
1988	1,660.6
1989	1,768.0
1990	NA

ELECTRICITY PRODUCTION[I,7]
in megawatts

PNW
69,386
99,873
143,993
171,797
206,221
193,093
205,457
218,735
228,516
234,068

BPA ENERGY SALES[J]
in thousands of MWH

29,449
37,211
55,426
65,733
72,549
83,749
70,741
68,699
74,739
81,803

BPA AVERAGE PRICE OF POWER SALES[J,8]
in mills per KWH

2.30
2.36
2.40
2.92
5.74
21.46
21.04
24.49
24.33
21.99

IMPLICIT PRICE DEFLATOR[9]
for personal consumption 1982=100

YEAR	US
1960	32.9
1965	35.5
1970	42.9
1975	59.2
1980	86.6
1985	111.8
1987	119.5
1988	124.2
1989	129.9
1990	136.4

CONSUMER PRICE INDEX[K,9]
1982-84=100

PORTLAND	SEATTLE/ EVERETT
29.8	28.8
32.3	31.0
38.7	37.4
53.5	51.1
87.2	82.7
106.7	105.6
110.8	109.2
114.7	112.8
120.4	118.1
127.4	126.8

FOREIGN TRADE[A,10]
Portland and Seattle Customs Districts in millions $

EXPORTS	IMPORTS
625	305
829	427
2,688	1,651
6,244	4,781
15,770	11,836
15,533	17,349
19,378	22,195
26,495	24,022
32,830	26,323
38,437	26,657

LOG EXPORTS[G]
in million board ft.

WA	OR
NA	NA
618	283
1,579	637
1,464	824
1,699	933
1,879	1,125
2,064	1,104
2,295	1,387
2,357	1,257
1,929	1,075

SOURCES:
A. Bureau of the Census, U.S. Dept. of Commerce
B. Bureau of Economic Analysis, U.S. Dept. of Commerce
C. F.W. Dodge Division, McGraw-Hill Information Systems Co.
D. Western Wood Products Assoc.
E. Washington State Employment Security Dept., State of Oregon Employment Div., State of Idaho Dept. of Employment
F. American Plywood Assoc.
G. U.S. Forest Service
H. Direct Services Industries, Inc.
I. Pacific Northwest Utilities Conference Comm.
J. Bonneville Power Administration
K. Bureau of Labor Statistics, U.S. Dept. of Labor

FOOTNOTES:
1. Includes armed forces residing in each state.
2. The 1990 figures are estimates.
3. FOB mill realization, coast region (Oregon and Washington) for Douglas fir and Hem-fir.
4. Data from 1978 to present have been revised to incorporate a methodology change. See the July 1988 *Monthly Labor Review* for details.
5. Includes all types of structured panels.
6. Includes nine primary producers in Washington, Oregon, and Montana.
7. One Megawatt = 1,000 kilowatts.
8. One mill = 0.1 cents.
9. CPI for all urban consumers, annual average.
10. Data do not account for export of aircraft or shipments that pass through the Northwest and clear customs elsewhere. The 1960 figures do not include imports or exports by air.

REGION WATCH

A Second Look at the U.S.-Canada Free Trade Agreement

On January 1, 1989, the world's largest trading partners—the United States and Canada—entered into a bilateral free trade agreement, ending more than 130 years of intermittent attempts at dismantling trade barriers between the two countries. By the end of this century, the agreement will remove nearly all existing impediments to trade and investment and create the largest internal market in the world.

The U.S.-Canada Free Trade Agreement (FTA) was designed to stimulate economic growth and enhance consumer welfare in both nations, as well as improve the international competitiveness of the North American economies. Moreover, as the European Community works toward economic integration by 1992, the U.S.-Canada agreement—and possibly a U.S.-Canada-Mexico trilateral accord—provides a concrete model for lowering barriers to international trade and investment.

The Free Trade Agreement, now in its third year of implementation, has had an influence on the economies of the two countries and their respective subnational regions, but what specifically can be said about the adjustment process to date? How do these responses compare with the expectations? Has the FTA been a win-win accord for both countries? How has it affected the binational Pacific Northwest?

"Sleeping with an Elephant"

The idea of free trade between the United States and Canada is hardly new. In 1854 the United States and British North American colonies concluded a treaty providing free trade in natural products, free navigation on the St. Lawrence River and the Great Lakes, and reciprocal fishing rights in the northern Atlantic Ocean. The agreement lasted 12 years, then the United States abrogated the act because of British support for the Confederacy during the Civil War. The souring trade relationship with the United States was, in fact, a major reason for Canada's unification in 1867.

The issue of free trade reemerged from time to time thereafter; negotiations would begin, only to be abandoned. Many Canadians have worried that free trade would disrupt the regional diversity of Canada. The western provinces, as exporters of natural products, have viewed free trade as a way to get cheaper manufactured goods. However, the country's industrial heartland, centered in Ontario, has favored a more protectionist policy to stimulate growth. When, for instance, a comprehensive agreement for the free trade of natural products and lowered tariffs on manufactured goods was negotiated in 1911, the issue became so contentious in Canada that the Liberal party was defeated, taking the agreement down with it.

Other Canadians have questioned whether free trade with the United States would diminish Canada's cultural distinctiveness or national identity. Despite the evidence that free trade is consistent with the sovereignty of nations, these opponents warn of U.S. domination. Before ratification of the FTA, Shirley Carr, the president of the Canadian Labour Congress, declared that "it is in the interest of the United States to try to take over Canada. . . . They want to disrupt and disturb everything we have and bring us down to their level."

In spite of such concerns, the free trade option reemerged in the 1980s. Business and political communities had become increasingly aware of the inherent difficulty for Canadian manufacturers to achieve large-scale, efficient production without assured access to a large market. Without this market, Canadian firms were discouraged from building plants large enough to take full advantage of economies of scale and specialization. Protected by Canada's relatively high tariffs and thwarted by actual and contingent trade barriers in the United States, Canadian manufacturers focused on the domestic market and attempted to supply a whole range of products in each industry. The result was a plethora of small plants that manufacture too many products in short, fragmented production runs.

Canadians also feared that the United States, with its escalating trade deficits, might be sliding back into protectionism, which would have a potentially devastating effect on Canadian exporters. Former Prime Minister Trudeau described the overwhelming presence of Canada's giant neighbor by stating that "living next to the United States is in some ways like sleeping with an elephant. No matter how good-natured the beast, one tends to notice every grunt and twitch." Despite Canada's attempts to promote closer ties with the United Kingdom and Europe, its economy actually increased its dependence on the United States. In the 1960s, Canada exported less than 20 percent of its national output and less than 60 percent of its exports went to the United States. By 1990 exports accounted for 27 percent of Canada's GNP and the United States received more than 75 percent. In certain sectors—energy materials, motor vehicles and parts, and agricultural machinery—the dependence was more notable.

Because of these concerns, Prime Minister Mulroney proposed another try at a free trade agreement in the mid-1980s, and then-President Reagan accepted the invitation. Why did the United States agree to Canada's overture? Although U.S. trade is much less focused on Canada than is Canadian trade on the United States, Canada is nevertheless our primary trading partner, buying 23 percent (or $83.9 billion in 1990) of total U.S. exports. Two-way trade between the two countries totaled $175.2 bil-

lion in 1990. (Japan, our second best customer, receives 13 percent of our exports and total two-way trade equaled $138.3 billion in 1990.)

American producers encouraged the administration to negotiate the removal of Canada's tariffs, which are on average higher than those levied by the United States (Table 1). Moreover, although Canada's duties since the Tokyo Round of the multinational trade negotiations known as the General Agreement on Tariffs and Trade (GATT) appear low, these rates are actually averages of tariffs on many commodities weighted by the value of trade in those goods. Unusually high or prohibitive rates that reduce volume get little or no weight —and high tariffs abound. For U.S. producers, especially those firms in mature or niche industries and those located near the border, gaining unrestricted access to the Canadian market could represent a considerable boon.

The United States also wanted to prove that further progress in trade liberalization was possible. In the ongoing multilateral trade talks (the Uruguay Round of GATT was launched in September 1986), U.S. negotiators planned to break new ground on such difficult issues as trade in services, foreign investment, agriculture, and intellectual property rights. The fast-growing services industry, which accounts for 47 percent of national output in the United States and 60 percent in Canada, was not hampered by explicit prohibitions, but by the absence of provisions that would facilitate trade.

Table 1: Average Tariffs on Imports for the United States and Canada, 1987
in percent, weighted by bilateral trade

	U.S. TARIFFS		CANADIAN TARIFFS	
	FROM CANADA	FROM OTHER	FROM U.S.	FROM OTHER
Agriculture	1.6	1.8	2.2	1.8
Food	3.8	4.8	5.4	6.1
Textiles	7.2	9.1	16.9	16.4
Clothing	18.4	21.4	23.7	22.1
Leather Products	2.5	3.8	4.0	8.7
Footwear	9.0	8.9	21.5	21.9
Wood Products	0.2	3.8	2.5	4.9
Furniture and Fixtures	4.6	2.9	14.3	14.1
Paper Products	0.0	1.3	6.6	6.5
Printing and Publishing	0.3	0.7	1.1	1.0
Chemicals	0.6	3.5	7.9	7.0
Petroleum Products	0.0	0.1	0.4	0.1
Rubber Products	3.2	2.0	7.3	6.0
Nonmetal Mineral Products	0.3	7.2	4.4	8.5
Glass Products	5.7	5.8	6.9	7.9
Iron and Steel	2.7	3.9	5.1	5.5
Nonferrous Metals	0.5	0.8	3.3	2.7
Metal Products	4.0	4.4	8.6	8.9
Nonelectric Machinery	2.2	3.2	4.6	4.8
Electric Machinery	4.5	4.1	7.5	7.1
Transportation Equipment	0.0	2.5	0.0	2.5
Misc. Manufacturers	0.9	2.0	5.0	5.3
AVERAGE	0.7	4.3	3.8	7.4

SOURCE: *Perspectives on a U.S.-Canadian Free Trade Agreement*, The Brookings Institution, 1987

A Political Compromise

Canada's Minister of International Trade and the U.S. Trade Representative both hailed the Free Trade Agreement as the most ambitious bilateral economic accord ever signed by the two nations. The ratified FTA makes significant progress in leveling the artificial barriers that existed on the playing field of economic exchange. The agreement covers services and the movement of the factors of production: inputs, such as energy products, and financial and human capital.

In particular, the Free Trade Agreement

- eliminates all tariffs on trade goods by 1998 and lowers nontariff barriers (such as quantitative restrictions or discriminatory pricing) on the flow of both goods and services,
- improves the climate for bilateral investment by liberalizing the regulations that cover direct investment,
- loosens restrictions on the sale of services and cross-border business travel,
- establishes a "rule of origin" test to prevent third-country goods from receiving preferential treatment,
- creates a more effective and impartial framework to settle trade and investment disputes,
- expands the size of government procurement markets that are open to suppliers from the other country,
- exempts cultural industries—the production and sale of books, magazines, newspapers, films, video and audio recordings, and broadcasts—from trade liberalization,
- exempts U.S. banks from Canada's laws and regulations that limit foreign market share, and
- eliminates virtually all import and export quotas, except those allowed by the General Agreement on Tariffs and Trade.

The FTA does not simply mandate free trade; it's a political compromise that outlines a complex set of restrictions and exemptions affecting commerce between the two countries. Although the agreement moves the United States and Canada closer toward economic integration, there are many exceptions, such as agriculture and cultural industries, to "free" trade. Hidden barriers to trade and investment exist because of differences in national and region-

al policies regarding taxation, commodity specification standards, product testing certification, and so forth. And while the accord's provision to eliminate all tariffs within 10 years applies to agriculture, each country decided to retain its own agricultural policies (including domestic farm subsidies, health regulations, and import quotas), which distort trade flows.

Another nettlesome area in U.S.-Canada trade has been each nation's anti-dumping laws, which impose duties on imports of such government-subsidized products as softwood lumber and fresh groundfish. Since 1980 Canada has imposed duties on U.S. imports in 24 cases; the U.S. has applied duties on 15 Canadian imports.

Table 2: British Columbia's Trade with Pacific Northwest States
in millions $

	IMPORTS FROM THE NORTHWEST			EXPORTS TO THE NORTHWEST		
	1988	1989	1990	1988	1989	1990
Agriculture and Food Products	227.6	264.4	268.5	220.4	213.1	222.7
Forest Products	202.5	249.7	270	782.5	886.3	1,312.8
Printing and Publishing	9.1	14.3	21	14.2	10.1	13.3
Metal Materials and Products	88.9	131.8	178.0	122.2	127.7	130.1
Energy Materials and Products	49.2	62.8	84.6	314.9	368.8	98.4
Other Nonmetal Products	23.1	30.6	40.5	56.5	46.3	49.7
Chemicals and Allied Products	54.1	62.2	66.1	44.2	37.2	36.4
Textiles and Apparel	5.8	9.2	8.8	13.9	18.2	13.9
Industrial Machinery	200.0	238.3	242.8	101.8	115.5	97.8
Transport Equipment	197.5	411.9	345.3	109.8	103.3	94.9
Instruments	30.7	45.7	45.8	6.2	6.3	7.1
Consumer Products	14.4	20.9	24.1	14.8	18.6	17.5
Misc. Manufacturing	24.6	44.8	37.8	18.1	17.2	21.8
Miscellaneous	19.2	34.7	37.5	18.4	32.5	5.2
TOTAL	1,146.8	1,621.4	1,671.2	1,838.0	2,001.3	2,121.5

NOTE: Value of trade in Canadian dollars converted to U.S. dollars using average annual exchange rate
SOURCE: Statistics Canada, BC Statistics, International Monetary Fund

Jobs and Investments

Among economists, free trade is one of the most widely supported propositions in a highly disputatious profession. Clearly, no nation would prosper if it were encircled by an impenetrable wall that kept out imports and prevented exports. Such walls block producers from specializing in what they do best, while encouraging them to engage in tasks ill-suited to their location and skill base. Consumers, as a result, pay higher prices and receive lower real wages. "Such protection," economist Henry George stated, "teaches us to do to ourselves in time of peace what enemies seek to do to us in time of war."

The bilateral trade agreement would, according to recent empirical evidence, result in higher real incomes in both countries, but particularly in Canada. The Canada Department of Finance estimated that increased trade from the accords will add 120,000 net jobs to the Canadian economy and increase the nation's real income 2 to 3 percent, or an equivalent of $450 per Canadian per year. In British Columbia, for example, there will be a 2.5 percent real increase in provincial output and 27,600 net new jobs by 1999. Within the United States, the results range from small gains to small losses.

In return for imports of such durable goods as machinery and equipment, Canada exports a mixture of manufactured products (transportation equipment, lumber and sawmill products, and pulp and paper) and raw materials (energy products, metals and minerals). In addition, Canada's proximity, economic structure, and culture have stimulated heavy bilateral foreign direct investment flows. In 1989 the United States maintained a controlling interest in 35 percent ($32.3 billion) of Canada's manufacturing output. Although its foreign direct investment amounts to a much smaller share (1.2 percent or $11.6 billion), Canada's per capita investment in U.S. manufacturing exceeds our investment level in Canada. Thus, marginal expansions of trade and investment could have a significant effect on both nations' economic welfare.

Across the 49th Parallel

Canada's economic locus has always been situated along its 5,525 mile border with the United States. Although a protected home market has forced east-west patterns of commerce within Canada, the natural axis of trade has always been from north to south, especially among provinces and border states. Despite Canada's subsidization of cross-continental transport systems and the legal barriers it has erected to trade with the United States, the protectionist policies *among* Canadian provinces are legendary: more than 300 major barriers are in place. Ironically, some Canadian supporters of the FTA hoped that it would help pave the way for freer trade *within* Canada. Although the FTA will have only a modest effect on interprovincial trade, the agreement has helped the provinces—and the states to the south of them—refocus awareness on the important economic benefits that lie across the 49th parallel.

The binational Pacific Northwest is the most trade-dependent region in North America, and the linkages between Washington, Oregon, Idaho, and British Columbia are growing stronger. In 1988 two-way trade between British Columbia and the three states amounted to $3.0 billion (Table 2), and our exports to Canada represented 13 percent of the region's total in 1989. During the first year of the FTA, two-way trade increased to $3.6 billion, and by 1990 trade between the province and Northwest states stood at $3.8 billion. The interregional export portfolio is dominated by natural products (food and fiber, minerals, and energy materials) and transportation equipment (aircraft and motor vehicles), although high technology goods are increasingly prominent.

Not surprisingly, 75 percent of the region's trade total occurs between Washington and British Columbia. With their common border, well-developed transportation infrastructure, and position on the Pacific Rim, the state and the province have become two of the most trade-dependent subnational entities in North America.

Although the recent rise that we've seen in cross-border retail trade has taken place since the implementation of the agreement, free trade has actually played a minor role in the sales increase. The principal reason for the heightened activity is the strong Canadian dollar, which effectively increases purchasing power for the Canadians who cross the border to shop. The higher cost of doing business in Canada (particularly labor costs and a recent value-added tax on goods and services) forces many British Columbian firms and businesses across Canada to charge higher prices than their U.S. competitors. So cross-border shopping —a boon for Washington's merchants— highlights the serious structural problems relating to productivity and costs in the Canadian economy.

Perhaps the most significant impact the FTA has had on the Northwest is to spotlight the business opportunities across the border. Don Etchison, vice-president of the British Columbia Business Council, states that the FTA "signals an exciting new era in cross-border commerce in the Pacific Northwest." British Columbia has formed bilateral province-state cooperative initiatives with both Washington and Oregon to promote such regional industries as tourism, software, biotechnology, and environmental services. Furthermore, legislative leaders from Alberta, British Columbia, Washington, Oregon, Idaho, Montana, and Alaska have recently gathered to focus the region's attention on shared values and emerging opportunities for competing in the international economy.

A Modest Start

By most accounts, the two and a half year old Free Trade Agreement is off to a modest start. While total U.S. exports increased by 12 percent between 1988 and 1990, exports to Canada recorded a 17.1 percent increase. During the same period, the value of imports from Canada grew by 12.2 percent, which is equal to the rate for total U.S. imports.

Although the average American has taken only cursory notice of the FTA, many Canadians have alleged that the agreement is causing Canadian manufacturers to shift their operations to the United States. While such sectors as furniture, textiles, and clothing, where tariff barriers had been highest, have seen plant closures and shifts to the United States, the major policy difficulties in Canada lie not with trade, but with fiscal deficits, cost increases, interprovincial trade barriers, and low productivity. Economic growth in Canada has declined since April 1990, and the country's unemployment rate now exceeds 10 percent—far above the U.S. rate of 6.6 percent. Canada's recession has accentuated its high interest and exchange rates, which contribute to manufacturing's poor competitive position. On balance, there is no clear proof that Canada is losing manufacturing jobs or investment dollars to the United States as a result of the accords. What is clear, however, is that most Canadians, according to a recent poll by the Toronto *Globe and Mail*, remain opposed to the Free Trade Agreement.

The FTA, by design, is being phased in over a 10-year period to ease the economic costs of transition and adjustment. What makes the task of assessing the effects of the agreement difficult is the predominance of other influences, such as exchange rates and the current recession. Yet the need to evaluate the growing influence of the FTA on the economies and structure of the two countries remains. Through such assessments, government, business, and labor groups will be better able to take the most effective steps to maximize the benefits and minimize the costs of free trade.

In the long term, the agreement guarantees that the border will remain open to trade in goods and services and direct investment. And for regions situated on the border, like the Pacific Northwest, the accords will spur the development of a north-south trade corridor. Full implementation of the act should generate an increase in quality jobs, based on an efficient and competitive industrial structure. RAC

Savings and Loan Crisis

(continued from page 11)

their ability to finance operations will retard employment growth. The high-tech sector, where success requires the risky endeavors of innovation and invention, would find its ability to finance growth diminished by tight credit. If consumers find it more difficult to qualify for home mortgages, the demand for new homes will slacken, further reducing the demand for wood products within an already weakened industry.

The impact of the savings and loan crisis goes beyond economic well-being. It transforms the way depositors view their financial institutions. Echoed in almost all demands for banking reform is the idea that market regulation must assume much of the role formerly played by government regulation. Depositors will be expected to scrutinize the performance and activities of their financial institutions in much the same way that Wall Street investors examine the firms in which they own stock. Large depositors, in particular, will no longer be completely protected from loss by deposit insurance.

S&Ls, in turn, must alter the way they do business. Thrifts will need to report their assets at current market value, not at historical value, and will need to recognize losses on a current basis, rather than amortizing them. They will have to submit to more stringent disclosure requirements so that depositors, who will be expected to play a role in regulation, will have access to relevant and factual information.

Between 1985 and 1990, the number of savings and loan associations decreased by 942, a reduction of 30 percent. There are, in addition, 563 S&Ls that are likely to fail within the next few years, and scores of others are balancing on the edge of insolvency. The thrifts that survive the 1990s will have to be better capitalized, better managed, and more market oriented than the savings and loans of the past. The industry, and the regulatory agencies that monitor its activities, will have to be more responsive in the years to come and less prone to procrastination and wishful thinking. If we've learned anything from the S&L crisis, it's that such policies only make a bad situation worse. RMM

EDUCATION'S PARTNERSHIP WITH PRIVATE INDUSTRY

HOW CLOSE IS TOO CLOSE?

When the economic boom of the mid-1980s began, there was a lot of hope—and a lot of hype—about high-technology industries replacing the jobs that had been lost during the recession in forest products, heavy manufacturing, and other hard-hit industries. Many communities figured that if they could just lure in that big electronics plant, their economic worries would be over.

The reality was different. There weren't enough electronics plants to go around, and, by and large, they weren't interested in communities full of laid-off loggers and millworkers. And while the high-tech firms provided employment, their entry-level jobs were the relatively low-wage assembly positions—not unlike work in, say, a food processing plant—that were likely to attract people with a lack of alternatives. However glamorous the industry and however glossy the factory building, the basic assembler's position was, in fact, a classic dead-end job.

Jack McGee, executive director of the Everett-based Applied Technology Training Center, which is affiliated with the Edmonds and Everett community colleges but has its own independent board of directors, agrees that *assembler* has traditionally meant a dead-end job. For all too many people, the job offers modest pay—perhaps $6.50 or $6.75 an hour—and no hope of advancement. As a result, workmanship tends to be poor, and turnover is high. And yet Jack McGee is training assemblers. Why?

To begin with, he doesn't call them assemblers. "I always say *manufacturing specialist*," he says. "*Assembler* has a negative connotation." And he doesn't want to train people who see *manufacturing specialist* as the end of the road; he wants people who see it as the first step in an upward journey. He tells every entering class that if all they want is a $6.50 an hour job, they should go flip burgers.

Many of the prospective students have already flipped burgers; they aren't fresh out of high school. The typical student is 31 years old, and if he hasn't flipped burgers, he may have lost a job in the forest products industry or simply bounced from job to job. She may have very little education or an unmarketable degree.

By Daniel Jack Chasan

The ATTC tests all students when they arrive. If they can't read at an eighth-grade level or do math at least through basic algebra, they're sent to one of the community colleges for remedial training. Once their math and reading skills reach those minimum levels, they go through an 80-hour course. They learn soldering, wire wrap, component identification, and all the other basic assembly skills, but that is not the only or—in McGee's opinion—the most significant thing they learn. They also learn to communicate, to calculate, and to show up for work on time.

When they finish, they get jobs. The ATTC trains a student for a specific job at a specific company, although she sometimes winds up working somewhere else. It's not unusual for a company to provide the blueprints from which students work, the machinery on which they learn, and the instructors who teach them.

Can Job-Specific Training Be Flexible?

This is about as job-specific as a training program can be. Yet MIT economist David Birch and others have been saying for years that people starting out today can count on switching careers more than once during their working lives and on seeing specific jobs changed beyond recognition by technological developments. They should, there-

fore, have broad educations that will make them flexible, that will teach them how to learn. Is the specificity of Applied Technology's training going to hurt its students in the long run?

McGee doesn't think so. He says that his students are learning about an industry, not just a single job. And he doesn't expect them to stop learning once they complete their 80 hours. When McGee talks to those incoming students, he gives them a standard spiel about the two paths they can take up the career ladder. If they want to progress vertically, they can return periodically to ATTC for the additional training—financed by their employers—that will enable them to become leads and then supervisors. The entry-level work may pay badly, McGee says, but people tend to forget that the electronics industry has the highest average wage around—$37,500 a year. Granted, that figure reflects a handful of designers who make really big money, but it also includes supervisors who make up to $27 an hour.

The other career path takes the student—again, at his or her employer's expense—to the community college for an associate degree and credentials as a manufacturing technician. From there, he can go into sales or management. But a sales or management job will probably require a four-year degree, and an ATTC graduate in his 30s probably lacks the time or inclination to start from scratch. To fill in the gap between the technician's training and the bachelor's degree, McGee has convinced Seattle's City University to accept all the credits the person has earned up to that point. That means only two years of college study will be needed for the bachelor's degree.

Next-Door Neighbors

The Applied Technology Training Center stands just north of the John Fluke electronics plant on Seaview Avenue, which run along the southern edge of Everett. Intermec, the world's leading maker of bar code equipment, lies a very short drive up the road. Boeing's huge Everett plant sits a little south of John Fluke. The ATTC building itself is modern, with dark glass and a brightly painted interior, surrounded by grass and trees.

The unusual location—unusual, that is, for an educational institution—reflects the center's close association with local industry. When McGee and Eldec vice president John Vicklund put together the ATTC's first programs, they had nowhere to house them. They went to the state legislature, but were told that no money would be available for five to six years. So they went to private industry. John Fluke donated the land, contractors did the work at cost, and a number of companies donated equipment. The building was financed through the Edmonds Community College Foundation, although the center's corporate colleagues helped out in negotiations with the bank. Is it significant that the ATTC is located here, rather than, say, in some abandoned downtown high school? The Seaview Avenue address, McGee says, "ties them to where they're going, rather than where they're coming from."

To be skeptical, the industry will always have more assemblers than supervisors or managers, and not all students will be able to rise as far in practice as they will in theory. That conclusion would be right, McGee concedes, if the number of electronics companies stayed constant. But with new companies moving into the area, he says the number of higher-level jobs keeps increasing. ATTC board member John Vicklund got interested, for example, because his own company was having a hard time finding and keeping trained workers. The whole electronics industry was expanding rapidly in 1986, and the companies in this area were scrambling for the same limited pool of workers. Demand increased, but the overall supply stayed nearly constant. It seemed smarter to increase the supply.

The theoretical chance to advance clearly won't be worth much unless employers really provide the time and money for further training and education, and provide jobs for the people who go through it. McGee says he won't train entry-level people for any company that doesn't provide those opportunities. One company told him flatly that it didn't want to raise workers' expectations. In that case, McGee said, the ATTC wouldn't train its workers. When business boomed and the company needed all the trained people it could get, it went back to McGee, who explained that his position hadn't changed. The company replied that it had revised its policies: it was ready to accept workers with aspirations.

In general, McGee says, people who feel that their jobs are dead-end won't have much commitment to the company or to the work, won't stick around long, and will make a lot of mistakes while they last. One local electronics company that still refuses to make any commitment to its employees' training and advancement has a defect rate of 50 to 60 percent. With a better trained and more committed work force, he believes, that rate could be cut to 10 percent, and the company might make more money.

Should Education Be Separate From Economic Development?

A former baseball coach—he took the University of Puget Sound to the NCAA regional championships—McGee figures that manufacturing is much like baseball. "You don't win baseball games," he says. "You lose them." A single fielding error by anyone playing any position on the team can blow a game. In manufacturing, routine errors by the people in the basic assembly jobs can blow the game, too.

Baseball analogies come easily for McGee, who has coached sports teams for many years. A college football player at Missouri, he started law school, dropped out to become a high school football coach, soon became a principal, and stayed in education, finally becoming an administrator at UPS, where he was involved in setting up the Tacoma university's branch campuses and law school.

Despite that perhaps conventional background, McGee sounds comfortable talking about partnerships with private industry and about giving his customers—the corporations for which the center is training workers—exactly what they want. There is nothing especially revolutionary about meshing the public educational system tightly with private industry. Germany, among other countries, has done it for

years. But it does raise questions about the propriety, or at least appropriateness, of using public resources for the ultimate benefit of profit-making corporations. But education is only one of the ATTC's missions; another is economic development. In a development context, the propriety of using public money or facilities in ways that will lead directly to private profit is assumed.

Nevertheless, the ATTC is affiliated with two community colleges, and its close ties to private industry do make some traditional educators uneasy. Officials of high-tech corporations sit on the center's board of directors, where they make the ultimate decisions. McGee says this gives the corporations a direct interest in the activities and success of the center. But that involvement falls outside mainstream practices at American colleges, and some community college presidents have had trouble accepting it. College officials are accustomed to people from the private sector giving advice, but not making decisions. "Presidents are always calling our board of directors an advisory board," McGee says. "They're always making that Freudian slip."

Flexibility and One-Shot Courses

Boeing is represented on the board and trains some people through the ATTC, but companies as large as Boeing tend to do their own training—although McGee says they probably shouldn't because "we have more credibility with their employees." Small and medium-sized companies don't have the resources to do it themselves. And yet as technology changes, they need ways not only to bring in new people but also to retrain the workers they have.

The ATTC started out by focusing on the electronics industry, but chances are that a wide range of companies will ultimately need its services. "What we've discovered," Vicklund says, "is that as technology is applied to the manufacturing process, people involved in manufacturing will probably find themselves in an unfamiliar ballgame. Most companies are coming to the point where they need high-tech processes to produce low-tech products."

Production workers aren't the only ones who have to learn new skills. Technological change is forcing people at many, if not all, levels of manufacturing to adapt. "We used to have drafters sitting at drawing tables," Vicklund says. "Now, with computer-assisted design, the engineer sits at a terminal and designs the whole thing. Drafters are no longer needed. We used to have machinists who turned cranks and ran lathes. Now the machinist needs to know how to program this mathematically controlled milling machine so that it will produce the part." All these people must be retrained.

Community colleges are the logical sources to do the retraining, but Vicklund explains that a traditional community college may not be flexible enough to give a company what it wants. When Eldec was scrambling to get enough trained workers, the community colleges wanted to help, but they couldn't move as quickly as the firm required. Eldec needed specific courses that would be taught once—and it needed them in a hurry. The colleges were geared toward setting up accredited courses, and by the time a community college had developed such a course, run the plans through the proper committees, and hired faculty members, it would have been too late. Besides, once a college has gone to all that trouble, it expects to keep the course going, but Eldec didn't need or want the repetition. The traditional approach is fine if you're teaching a traditional academic subject, Vicklund says, but if a company needs specialized training, it may not work.

The Applied Technology Training Center is flexible enough to set up quick, one-shot courses. It also offers state-of-the-art equipment—provided by the companies—that no community college could afford. The center couldn't afford to buy it either, "but we can invite the people who develop the technology to come in and show it off," Vicklund says. "Purists claim that's terrible commercialization of an educational institution." But the ATTC board isn't naive. When IBM provides $650,000 worth of computer-integrated manufacturing equipment, Vicklund says, "we know they're using it as a promotional opportunity. Some people think that's terribly crass and commercial. I think it's just good business sense."

IBM chose the ATTC as one of 49 institutions in the United States to receive its technology for computer-integrated manufacturing, which feeds computerized design data directly into a manufacturing control system, eliminating the need for people to transfer the data from one system to another—and eliminating the opportunity to make mistakes in the transfer process. The center is now setting up its own automated electronics assembly line for students to practice on.

The ATTC is also setting up an automated manufacturing system for aircraft parts at Pioneer Industries in Seattle. Pioneer provides job training and work experience for people who are completing alcohol and drug recovery programs. It's not a particularly high-tech operation, but that doesn't mean it can afford to ignore the development of high-tech manufacturing processes. Pioneer turned to the ATTC and said that its factory, which works with sheet metal and milling machines, needed automating. When the system is up and running, the center will send its own students into the plant to learn the technology.

The Pioneer project dovetails perfectly with what McGee says is the ATTC's ultimate social goal: to improve the quality of manufacturing. He thinks the center can achieve that both by training workers and by fostering a sense of mutual commitment between company and employees. It can help industry build a better team. And, as an old coach, he says, you don't put together a good team just to go out and play second-rate opponents; he looks forward to "beating the Japanese."

This is not the voice of a traditional educator. But it may represent an approach, if not an attitude, that will become more common in educational circles. The ATTC places "a high priority on meeting the training needs of the private sector," says Earl Hale, executive director of the state community college system. "I think that's a direction our whole system has to take. Ten years from now, you'll probably see more colleges doing this kind of thing."

Daniel Jack Chasan is the author of The Water Link *and* The Fall of the House of WPPSS.

Can Rivals Become Partners?

THE PORTS OF TACOMA AND SEATTLE

BY BOB C. DONEGAN

The big city, known throughout the world, had a thriving, innovative port that provided an entry for cargo and an exit for the goods its industries produced. Although the port's activity created thousands of jobs, some of the city's residents were more concerned with protecting their environment, and the port was largely ignored.

Across the water, in a city known for its industrial development, an aggressive, smaller port was growing. This city's residents and businesses vigorously supported the port and worked to help it expand. By undercutting the prices of the larger port, the smaller one, which had lower costs and focused on fewer services, grew as each day went by.

The ports were bitter rivals. "I would have gouged his eyes out and watched him squirt blood on the dirt if I thought it would help me get a ton of cargo," said a former executive director of one port of his competitor at the other one. "I used to tell him," declared the other director, "that my customer was sacred, and we'd compete for his."

Twenty years later, the two ports are partners. They've built a state-of-the-art facility for transferring cargo from ships to trains, they've lobbied state and federal legislators and earned more government subsidies than any other national port, and they support each other's environmental programs. Los Angeles and Long Beach are now two of the most successful ports in the world by any measure: revenue, profitability, efficiency, jobs created, and reputation. Can the competitive rivalry between the ports of Seattle and Tacoma have a similarly genial outcome?

Rough Waters in the Puget Sound

Seattle's seaport, in a 1987 economic impact study, claimed responsibility for the creation of 12,300 jobs and the support of another 80,000 indirect jobs in King County. The Port of Tacoma, in a 1990 report, said that its activities in Pierce County generated 11,200 direct jobs in the state and 20,000 indirect ones. According to the Washington Public Ports Association, the state's public facilities created or supported 150,000 jobs in 1990—as many as a second Boeing. Together, the ports of Seattle and Tacoma account for more than $50 billion of trade annually, which exceeds the total for any other region in the country, except Los Angeles. Regionally, the two ports are bigger than New York and New Jersey, bigger than Gulf ports, bigger than San Francisco Bay ports.

Despite their public postures, however, the Puget Sound's two major ports have been fighting an acrimonious war to determine which one will dominate the container cargo business. Tacoma won the latest battle: in July 1990 Evergreen Line moved from Seattle to Tacoma. Although it took with it less than 10 percent of Seattle's container volume, Evergreen is one of the world's fastest growing shipping lines. Its volume will likely triple when it ships through Tacoma.

Since 1985, Tacoma has taken Sea-Land Service (which accounted for a third of Seattle's volume), K Line, and Totem Ocean Trailer Express from its competitor and won an open competition for Maersk Line. Seattle won two skirmishes earlier in

1990 when it took two small Australian carriers from Tacoma.

Publicly, the ports speak of each other in guarded terms. "It's very attractive to try to steal away business from a port 30 miles north," Seattle's executive director Zeger van Asch van Wijck said in January. "But I don't think this will add any value to the region. I'd like to know how much effort they put into visiting shipping lines that do not call in the Pacific Northwest."

Privately, port executives are less flattering. "There's a basic lack of reality in the Port of Seattle," says a Tacoma executive. "Seattle's greatest disadvantage is that it's not run like a business. It's a government: it's got people walking all over each other, it can't control costs, it can't adjust to the market. It's a goner."

"Seattle markets to the world," explains a port manager in Seattle. "Tacoma markets to Seattle's customers."

The Port of Tacoma

The Port of Tacoma, founded in 1918, controls 2,400 acres on the city's waterfront. Its five container terminals and 31 berths allowed it to process 938,000 20-foot-equivalent container units (TEUs) in 1990, an anemic increase of only 1.4 percent from the port's 1989 total. Tacoma is more accustomed to annual growth rates in the 40 percent range. Last year the port was the sixth largest container facility in the United States and ranked 20th in the world.

"I remember my first Japan trip in 1964 or 1965," recalled Roy Perry, executive director of the Port of Tacoma from 1964 to 1975. "I called on the six biggest Japanese lines and many smaller breakbulk lines. I couldn't find anyone who even knew where Tacoma was. Seattle—everyone knew where that was—so I described us as 25 miles down the waterway from Seattle."

"In the old days—the 1960s and '70s—Seattle attracted worldwide attention and a golden reputation by developing consolidation services," said Paul Chilcote, a former Port of Seattle employee who is now a senior director at the Port of Tacoma. "It created a system where small shippers could bring their goods to a single location and the port would assemble them into bigger shipments. The port negotiated with railroads and steamship lines to get the high-volume rates that those shippers would have been unable to get. It was incredibly successful."

Shippers from Midwestern and East Coast markets no longer needed to transport their products through the Panama Canal or Southern California ports. "Seattle made the investment in transportation infrastructure and local warehousing, and it induced the railroads to provide better service," explained an industry observer. "Then Tacoma came in with cheaper land and private capital, and the shipping lines began playing the ports off against each other. Because of its lower costs, Tacoma was able to pounce a couple of Seattle's customers."

PHOTOS COURTESY OF THE PORT OF SEATTLE

Another advantage for Tacoma was that both Southern California and Seattle faced capacity problems. Their terminals were filling with shipping lines, and there were environmental pressures that prevented them from adding more terminals quickly. The railroads, highways, and streets serving the California ports were crowded with trucks, and the air was thick with their exhaust.

As the shipping business consolidated in the Northwest, the remaining carriers grew in power and their need for more land. "Evergreen had 20 acres," says Perry. "Today they use 118. American President Lines had 25 acres, now they have 140."

"The top 10 carriers now control 75 percent of the transpacific cargo," reports Chilcote. "And the larger lines clearly had to develop a rail or intermodal strategy to help them control their costs and speed deliveries."

Tacoma, generally acknowledged as having the best ship-to-train connections on the West Coast, can provide the steamship lines with the rail connections they want. In Southern California, the ports of Los Angeles and Long Beach have a new intermodal facility, but it's more than six miles from the water. To gain access to Seattle's nearby rail yards, trucks have to haul containers out of the port and across busy Highway 99. In Tacoma, the containers are taken off a ship and transferred onto a train within yards of the water.

Perhaps most importantly, the Port of Tacoma professes to be blessed with an abundance of land, the result of the settlement of Puyallup Native American land claims. The port's budget to develop some of those 500 additional acres into container terminals is $300 million or less than $900 thousand per acre. In comparison Seattle plans to spend more than $100 million on the 52-acre former Lockheed shipyard, and Los Angeles invested $1.5 million per acre in 1989 on its latest terminal. Tacoma's cost advantage comes, in part, from the federal and state money that was used to acquire the land. "The big myth is that Tacoma has inexpensive land," says a Seattle manager. "They've never released more than thumbnail projections describing their costs, they've underestimated the environmental costs, and their estimates don't include the funds the feds and the state government paid to settle the land claims. From a public policy perspective, their terminals cost just as much as ours will."

Tacoma's other advantages, in comparison with Southern California ports, include good relations with its longshore workers and lower labor costs per unit of cargo, a natural, deep-water site that allows it to avoid costly and environmentally troubling dredging, and the pro-growth support of the local media and the community, which hands the port a $6 million annual subsidy from property taxes. Seattle is more ambivalent about growth, says Michael Denning, who wrote his doctoral thesis on West Coast ports. "People in

Seattle won't kill for growth, but in Tacoma, they will."

The Port of Seattle

Founded by the voters of King County in 1911, the Port of Seattle owns and manages Sea-Tac Airport, Fisherman's Terminal, Shilshole Bay Marina, and the marine facilities of the port. Its seven container terminals and 60 berths enabled the seaport to process 1.17 million TEUs in 1990, an increase of 12 percent from 1989 and the largest increase of any port on the West Coast. Seattle is the country's fourth largest container port and it ranks 19th in the world.

Seattle has a reputation as an innovator, as an operating port, not a landlord port. It created the consolidation program that opened West Coast ports to cargo previously shipped through the Panama Canal to Midwest and East Coast markets and from those interior markets to Asia. The port was one of the first to adopt electronic means to monitor cargo and to encourage the use of standard steel containers by its tenant shiplines. Seattle convinced Burlington Northern to buy double-stack train cars by threatening to purchase the cars itself.

And, unlike other ports, it has been aggressive in seeking business. Seattle has opened sales offices throughout the United States and Asia, persuading potential clients to use "the Seattle shortcut," which makes the Puget Sound about 30 hours closer than Southern California's ports to Asia.

The port's operating cash deficit (it lost $6.3 million on revenues of $57.8 million in 1990 and invested $39 million in new capital equipment) is made up by cash from bond offerings and by King County property taxes, which contributed $33 million for the port last year. The tax levy helps keep Seattle's bond rating high and allows the port to build the facilities it claims are needed to remain competitive.

Under pressure from the community, the Port of Seattle Commission voted three to two earlier this year to place a cap on the amount of revenues the port could obtain from the subsidy. The commission also endorsed plans to build a new headquarters for the port and erect a new facility to handle fruit and chilled vegetables —neither of which will produce additional cash. And to counter impressions that Evergreen's move to Tacoma happened because Seattle is running out of container space, the port announced its intentions to develop additional container terminals and an intermodal yard.

Improving Performance —and Profitability

How do the ports of Seattle and Tacoma compare in terms of profitability, in their decisions to invest capital, and their growth strategies? Seattle has been losing about 1 percent on its assets for the past six years, yet investing almost 370 percent of the cash it generates (see figure). Even when the $33 million tax levy is included, Seattle invests 124 percent more than it generates internally. Tacoma earns about 2 percent on its assets and reinvests 134 percent of what it generates from operations and its tax levy. Neither port earns its marginal cost of capital but both want to generate enough cash to fund their development plans. Seattle proposes to improve its performance by raising the prices it charges for container terminals.

Southern California's ports charge about $100,000 for each container acre they lease to shipping lines. In Northern California, rents are between $70,000 and $80,000. In Seattle, rates average $45,000 an acre and are on the upswing. Tacoma charges less than $40,000 an acre.

	The Port of Tacoma		The Port of Seattle	
	1990	Six-Year Trend	1990	Six-Year Trend
Revenue (in millions)	$46.3	10.3% annual growth	$57.8	5.6% annual growth
Net Income (without tax levy)	$8.5	4.9% annual growth	($6.3)	0.0% annual growth
Return on Assets	2.7%	2.1% average	-1.4%	-0.9% average
Reinvestment Rate	89%	192% average	358%	368% average
Reinvestment Rate (with levy)		134% average		124% average
TEU Containers (in thousands)	938	715 average	1,170	973 average
TEU Growth	1.4%	35.7% annual growth	12.4%	2.3% annual growth
Tonnage Growth	-7%	14.0% annual growth	3%	4.2% annual growth
Net Assets (in millions)	$313	$277 average	$449	$413 average
Capital Spending	$15.7	$25.2 average	$38.7	$42.2 average
Employees	213		497*	
Size (acres)	2,400		1,200	
Container Terminals	5		7	
Berths	31		60	

*Includes 348 marine division employees and 149 Port of Seattle administrative staff.

Since California has ground congestion, a lack of terminal space, and higher operating costs, Seattle believes it could ask for and receive more for its container terminals—if Tacoma, only 25 miles away, weren't undercutting its prices. For example, Seattle reportedly offered Evergreen a lease for about $42,000 an acre and its own terminal to stay at the port. Tacoma won Evergreen away with a price under $39,000 an acre, its own terminal, and the promise of room to expand.

"We want to price what the market will bear," said Keith Christian, who was Seattle's director of marine planning and development at the time of the Evergreen negotiations. "The market will bear substantially higher rates than what they're paying here. My personal opinion is that [the Port of Tacoma] could charge more."

"We don't have a pricing problem," says a Tacoma executive. "Seattle has a cost problem. We have one person doing what Seattle has 280 doing. Consolidation and freight forwarding are handled by private firms here at a fraction of the cost the Port of Seattle charges. We can't raise our prices to cover Seattle's mistakes."

Looking Back at San Pedro Bay

Twenty years ago, the Ports of Los Angeles and Long Beach began the transition from rivalry to partnership by sharing in a great success. When Los Angeles planned to develop 140 acres of its land as an intermodal facility, the port discovered that, according to the Interstate Commerce Commission, the yard would have to be open to everyone. And if everyone could use it, the port didn't want to pay for the facility's development by itself.

"We didn't know how successful it would be," commented Roy Perry, who spent five years as the executive director at Los Angeles. "So I went over and asked Jim McJunken [Long Beach's executive director] if he wanted to participate and put a few bucks in. It turned out to be far more of a financial boon and operating success than we'd anticipated. [The facility] is already operating at the level we had projected for the year 2000."

Just prior to Los Angeles's first overtures to Long Beach, the State of California took away the revenue the Port of Long Beach was earning on oil wells on state lands within the port's boundaries. Long Beach's anticipated capital projects required more cash than its operations could generate. "McJunken realized that they were giving money away [by undercutting prices] that they needed for their capital development program," Perry said.

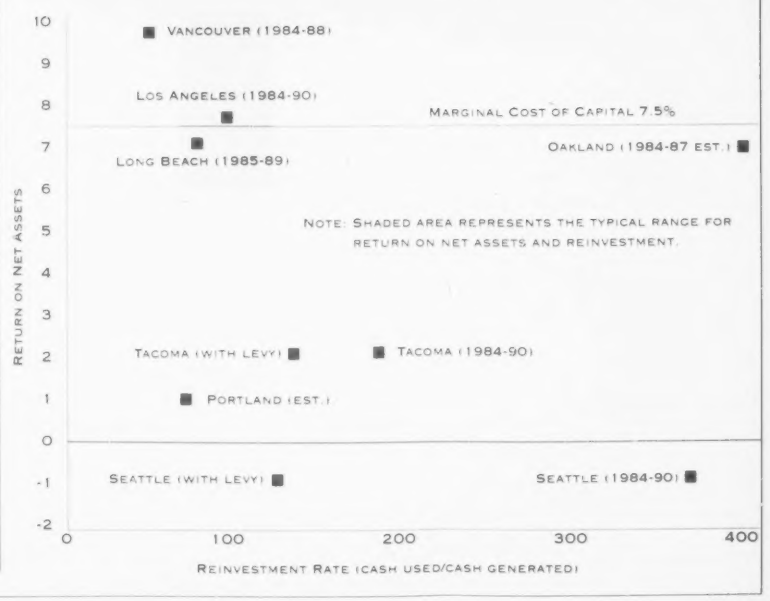
Another factor that improved relations between the two ports was that Long Beach achieved cargo parity with Los Angeles. Furthermore, as Perry stated, "In San Pedro Bay, there's only an imaginary line drawn on the water between the ports. If you do anything in one port, there are environmental impacts in the bay that affect the other port. We had to start planning together."

In unison, the Southern California ports have developed a 35-year expansion and development plan, shared information, and lobbied for $125 million in federal funds. They earn, on average, more than their marginal cost of capital, have virtually unlimited debt capacity, and, by not underbidding each other, continue to grow profitably. Each port earns more in *annual income* than either Seattle or Tacoma does in *revenue*.

Can Puget Sound ports learn from San Pedro Bay ports how to raise the cash they need to finance growth? "You can't raise rates in the Northwest too much or too quickly," McJunken states. "There are extended terms on most leases that often lock prices through the end of the century. Northwest ports are properly priced less expensively to attract the minibridge traffic to the Midwest and East Coast. That traffic can go anywhere. In addition, land prices are less in the Northwest, so leasing prices don't have to go up. I don't think price alone attracts any major steamship line—whether in Seattle or Long Beach. It's a matter of the appropriate facilities and services."

Roy Perry disagrees. "Port charges for moving a container from Tokyo to Chicago are less than 1 to 1.5 percent of the total transportation cost. Consequently, the port's share and port pricing are not significant factors. If [Puget Sound ports] don't

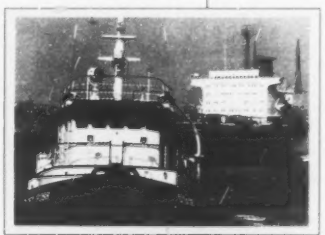
Reinvestment and Profitability in West Coast Ports, 1984-1990



raise rates, I don't know how they'll fund their growth."

Paul Chilcote is more direct about the effects of raising prices. "If both Seattle and Tacoma went to Seattle's proposed $60,000 to $70,000 an acre, the lines wouldn't come here anymore. They'd go to British Columbia or Portland. They'd go through the canal. The lines have already shown that they'll go to Southern California under enormous penalties of congestion, pollution, and horrendous cost."

Do the factors that created the Los Angeles-Long Beach story exist in Seattle-Tacoma? In most ways, the ports are too many miles apart. For example, although Seattle and Tacoma have begun to work together on such issues as jointly funded economic studies and the development of an electronic cargo release system, the ports have not taken a big risk and enjoyed the resulting success together. Nor has one or the other been stimulated by the loss of a major source of revenue the way Long Beach was, although that may be changing. Under increasing pressure from Seattle residents, the Port of Seattle Commission reduced its draw from the tax levy by almost $4 million in 1991. And a Seattle state representative introduced a bill that would have required ports to get annual voter approval for future subsidies. Although that bill was defeated, the ports would face a major loss of cash if new legislation passes or voters continue to demand reductions.



There is also some discussion of imposing a regional port authority on the Puget Sound's two facilities. "Ports throughout the country have been moving to regional authorities, and with success," says a Washington, D.C. insider. "New York and New Jersey, the Virginia ports, and others have been successful. Maybe it's time for someone to impose it on Seattle and Tacoma."

"I hope and expect we can be prudent about pricing and capacity," says Mic Dinsmore, chief operating officer for the Port of Seattle. "In the event that we don't cooperate, I'm convinced that it will be imposed on us by the state legislature. If they don't see substantive cooperation—and I mean real cooperation about prices and facilities— they will take a hard look at what we do and require performance improvements. We both use taxpayers' money. We like to use it effectively."

In terms of the factors that duplicate the experience of Los Angeles and Long Beach, both Puget Sound ports now need significant capital to finance their continued expansion. Tacoma's plans call for $500 million and Seattle's 10-year capital plan totals nearly $600 million.

Moreover, Tacoma has almost achieved container parity with Seattle. "Tacoma needs to exceed Seattle and enjoy a period of gloating over its success," says a Seattle manager. "It was the same case in Long Beach, of living in the shadow of a larger city. Once the gloating is over, the discussions can begin."

Finally, the environmental concerns at both ports are significant, although the two sites are not as closely situated as the San Pedro Bay ports. Nonetheless, Seattle's Lockheed acreage and Tacoma's Blair site are contaminated and will require major remediation.

The possibility also exists, of course, that the ports will begin to specialize and not compete directly in the future. "Let the boxes go to Tacoma," says one Seattle resident. "All the dirt and grime and blue collar jobs can go there. The white collar jobs in the banks and shipping line headquarters can stay in Seattle. Rapid growth in Tacoma helps Seattle."

"Look at where the Port of Seattle's container terminals are located," responds a Tacoma manager. "The most valuable piece of property in North America is Battery Park in Manhattan: 80 acres, 16,000 residents, 10 million feet of office space on the water next to the World Trade Center. Seattle's Terminal 37 is similar. Does it make sense to park trucks in the shadow of the Columbia Center, the tallest building in the Northwest?"

Not Yet, But Soon?

The transition that created the partnership in San Pedro Bay hasn't yet begun in the Northwest. Seattle and Tacoma cooperate on "public relations" issues, but the two ports haven't found a way to plan for regional capacity expansion, marketing, or pricing.

In the meantime, we can anticipate that the Port of Seattle will continue to expand its container business and face increased pressure from the community to reduce its reliance on the tax subsidy. Despite that pressure, the port commission will avoid the difficult decisions it needs to make to reduce expenses and eliminate unsuccessful lines of business, for fear of alienating labor, the community, or customers. The port's executive staff will continue to circumvent these problems and earn new business in the form of additional container lines and innovative services that attract increased shipping volume.

The Port of Tacoma's new container terminals, which will come on line at the end of the decade, are likely to cost more than it expects, and the port will find itself in a cost squeeze. This crunch will reduce profits and cash flow, but is not likely to hamper Tacoma's continued growth.

By the turn of the century, regional transportation problems, relatively poor rail service, and the threat of external interference by the state may provide the impetus that convinces Tacoma and Seattle to work together. Sea-Tac Airport, in fact, may be the first arena for cooperation. Both ports need a strong international airport to increase the volume of goods sent to the Puget Sound by ship and then on to Europe by air. Sea-Tac's capacity problems may become the breakthrough project that turns these rivals into partners.

Bob C. Donegan specializes in helping organizations, such as the Port of Seattle, devise and implement strategic plans.

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